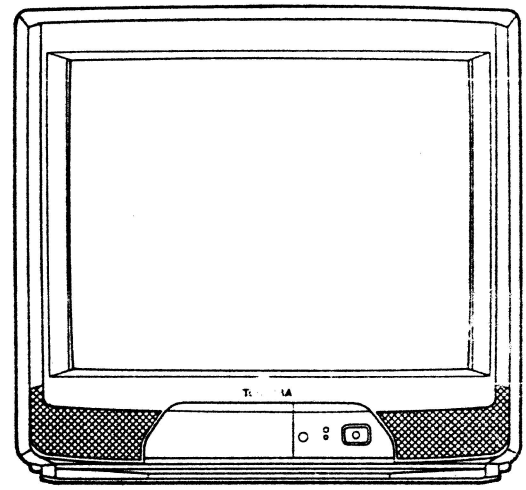
SERVICE DATA
FILE NO. 050-654
PAL-B/G SYSTEM

TOSHIBA

COLOUR TELEVISION

2132DD:2137DD



SPECIFICATIONS	
Input Power Rating:	103 W, AC 195 ~ 245 V, 50 Hz
Aerial Input Impedance:	75 ohm unbalanced type for UHF
Receiving Channels:	**CCIR (B/G.PAL) TV Broadcast Standard:** VHF ..... channels 2 to 4, 5 to 12, S1 to S20 UHF ..... channels 21 to 69
Intermediate Frequencies:	Picture I-F carrier frequency ..... 38.9 MHz Sound I-F carrier frequency ..... 33.4 MHz Colour sub-carrier frequency ..... 34.47 MHz
Picture Tube:	21 inches, A51KSV40X01, 510 mm (measured on diagonal of viewable picture area), 90° deflection
Sound Output:	5.0 W x 2 (at 10% Distortion)
Speakers:	70 mm x 60 mm oval 2 pcs
Aux. Terminals:	21 pin socket X 1, S-VIDEO INPUT socket, AUDIO/VIDEO INPUT socket
Cabinet:	Table type
Dimensions:	Height ..... 482 mm Width ..... 526 mm Depth ..... 488 mm
Weight:	21.4 kg
Featuers:	Video input of PAL-B/G, TELETEXT reception, OFF-timer, IGR

Specifications are subject to change without notice.

Printed in Japan Jul. 1993 (So)

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 27.5 kV at zero beam current (minimum brightness) operating at 220V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 29.0 kV. When checking the E.H.T., use the 'High Voltage Check' procedure in this manual using an accurate E.H.T. voltmeter.
2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
3. Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.
   For continued safety, replacement component should only be made after referring the Product Safety Notice below.

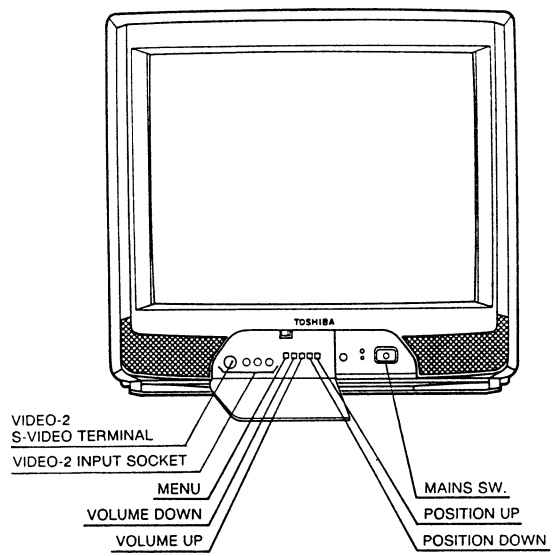
SAFETY PRECAUTION

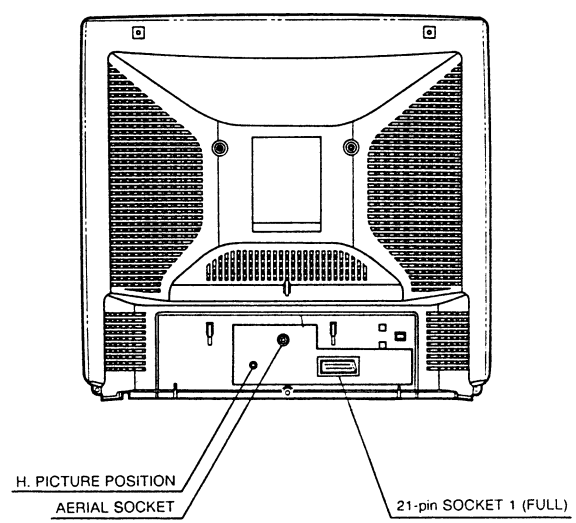
1. This receiver has a nominal working E.H.T. voltage of 25.0 kV. Extreme caution should be exercised when working on the receiver with the back removed.
   Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
   When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap
   The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
   Do not hold the C.R.T. by the neck as this is a very dangerous practice.
2. It is essential that to maintain the safety of the customer all cable forms be replaced exactly as supplied from factory.
3. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
4. Replace blown fuses within the receiver with the fuse specified in the parts list.
5. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
6. Keep wires away from high temperature components.

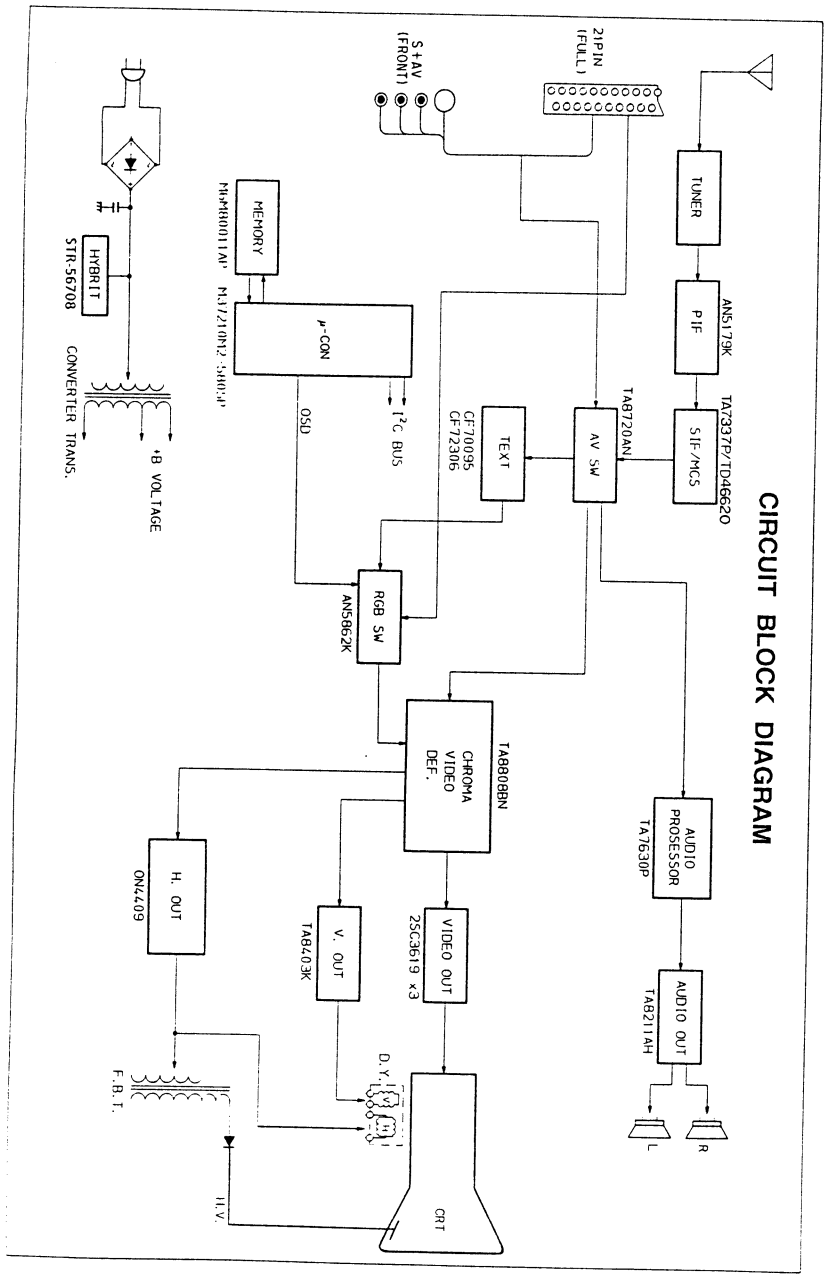
PRODUCT SAFETY NOTICE

Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

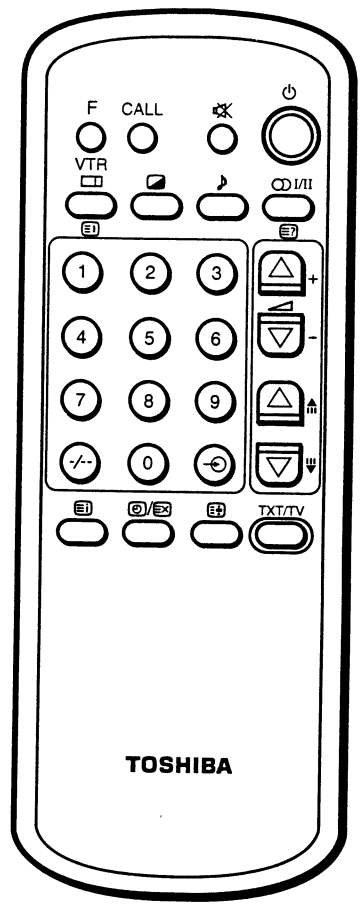
FRONT CONTROLS AND REAR VIEWS







REMOTE HAND HELD UNIT



CT-9673

KEY ASSIGNMENT

- ⏻ ..... ON STAND-BY (F + ; VTR ON STAND-BY)
- 🔇 ..... MUTE
- CALL ..... DISPLAY CALL
- F / VTR ..... FUNCTION KEY FOR VTR (To push double for VTR & SERVICE Operation)
- ..... <TV MODE> ..... TUNING & OTHER MENU; <TEXT MODE> ..... F-T-B (FULL, TOP, BOTTOM)
- ..... PICTURE MENU
- ♪ ..... SOUND MENU
- I/II ..... <TV MODE> ..... STEREO BILINGUAL; <TEXT MODE> ..... REVEAL / CONCEAL
- 1~9, 0 ... TEN KEY
- - / - - ..... 1 or 2 place
- ..... VIDEO INPUT (EXTERNAL INPUT SOURCE SW.)
- ..... VOLUME
- + ... LEVEL PLUS (VOLUME, MENU)
- – ..... LEVEL MINUS (VOLUME, MENU)
- △ ..... UP (POSI., CH., TEXT PAGE)
- ▽ ..... DOWN (POSI., CH., TEXT PAGE)
- TELE-TEXT:
  - TXT/TV..... TEXT, MIX, TV MODE SW.
  - ..... HOLD
  - ..... TIME DISPLAY (TV MODE); TEXT CLEAR (TEXT MODE)
  - ..... INDEX

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.
This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials. Plug the power cord into a convenient 220 volts 50 Hz AC two pin power outlet. Turn the receiver ON. Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least one hour in order that the automatic degaussing circuit operates properly. Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures.

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis.

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
3. High voltage will be measured below 29.0 kV.
4. Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 29.0 kV under any conditions.

HEIGHT ADJUSTMENT

1. Receive the UK PHILIPS pattern, and set the contrast, colour and brightness to centre.
2. Adjust HEIGHT Control (R351) so that white blocks at top and bottom of the picture are just masked.

HORIZONTAL CENTRE ADJUSTMENT

1. Receive the UK PHILIPS pattern.
2. Set the contrast and colour to centre, and the brightness to centre.
3. Adjust H. CENTER USER Control (R452) so the pattern centre can be located at the screen centre.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS. (T461) for well defined scanning lines in the centre area on the screen.

RF AGC ADJUSTMENT

1. Tune the set in the strongest station in your area.
2. Turn RF AGC Control (R151) on PIF Board to fully counterclockwise position.
3. Adjust RF AGC Control clockwise until noise (snow) just disappears on the screen.

PAL MATRIX ADJUSTMENT

1. Tune in the colour programme of the Philips pattern.
2. Set the COLOUR Control to obtain the proper colour.
3. If the PAL MATRIX adjustment is incorrect, the Venetian Blind would appear in the colour bars area. This case needs the adjustment.
4. At the first, adjust DL PHASE ADJ. Coil (L551) to minimize the Venetian Blind.
5. Next adjust 1H-DL ADJ. VR (R551) to minimize the Blind.
6. If the Venetian Blind still remains, adjust 1H-DL PHASE ADJ. Coil (L551) to minimize the Blind again.
7. Repeat the item 5 and 6 procedures, adjust the R551 and L551 until the Blind does not appear.

CRT GREY SCALE ADJUSTMENT

1. Tune in an active channel.
2. Set the SERVICE SW. (S202) in the "H. LINE" position.
3. Turn the SCREEN Control (on T461) fully counter-clockwise.
4. By rotating the RED, GREEN and BLUE CUT OFF Controls (R557, R558, R559) to the mid position.
5. Set the GREEN and BLUE DRIVE Controls (R252, R253) to the center.
6. Rotate the SCREEN Control gradually clockwise until the first line appears slightly on the screen. Set the SCREEN Control to this position.
7. Adjust the CUT OFF Controls to obtain the slightly lighted horizontal lines in the same levels of three colours (RED, GREEN and BLUE). The lines may look like white if the CUT OFF Controls are adjusted properly.
8. Set the SERVICE SW. (S202) in the "RECEIVE" position.
9. Set the CONTRAST and COLOUR Controls to minimum, and BRIGHTNESS Control to the maximum.
10. Adjust the BLUE and GREEN DRIVE Controls (R252/R253) to obtain proper white-balanced picture in high light areas.
11. Set the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

SUB-BRIGHTNESS ADJUSTMENT

1. Tune in a colour programme.
2. Set the CONTRAST Control to the minimum and the BRIGHTNESS Control to the centre.
3. Set the COLOUR Control to the centre.
4. Set the SUB-BRIGHT. Control (R255) to the centre and leave the receiver for five minutes in this state.
5. Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
6. Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
7. If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the controls turned to the maximum, adjust the SUB-BRIGHT. Control again for the acceptable picture.

PICTURE I-F TRAP ALIGNMENT

GENERAL ..... Refer to figure 4 for the equipment connection.
PRELIMINARY STEPS ..... 1. Turn the power switch of TV set off.
2. Supply + 12 volts to the PIF Board.
3. Turn RF AGC Control (R151) fully clockwise.
SWEEP/MARKER GENERATOR..... Connect to pin BA of P102 on the PIF Board as shown in figure 1. Set the signal level to 75~85 dBμV (75Ω load).
OSCILLOSCOPE..... Connect through the detector (See figure 6.) to the emitter of Q106.

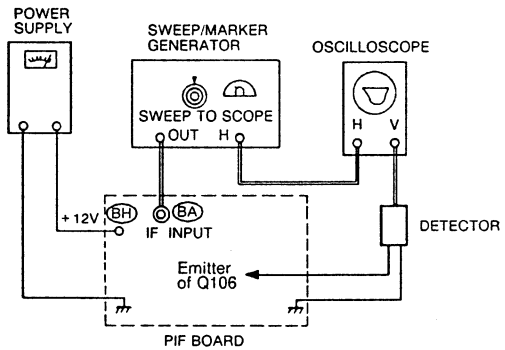


Figure 1.

STEP	SWEEP/MARKER GENERATOR	ADJUST	PROCEDURE
TRAP ALIGNMENT Control the sweep output for easy alignment. Set the IF markers for 40.4MHz and 31.9MHz.			
Trap coil T101	40.4MHz Marker "ON"	T101	Adjust T101 so the 40.4MHz marker point is placed at bottom of response. (See figure 2.)
Trap coil T102	31.9MHz Marker "ON"	T102	Adjust T102 so the 31.9MHz marker point is placed at bottom of response. (See figure 2.)

Figure 2. Trap Response

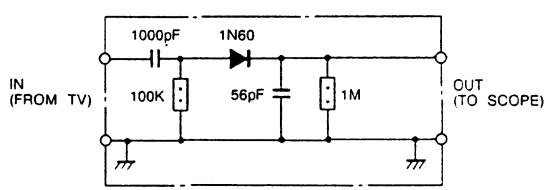


Figure 3. Detector Diagram

PICTURE I-F SWEEP ALIGNMENT

GENERAL ..... Refer to figure 4 for test equipment connection.
PRELIMINARY STEPS ..... 1. Supply + 12 volts to the PIF Board.
2. Supply dc 2.5~3.0V to pin 16 of IC101.
3. Connect pin 6 of IC101 to ground through capacitor 10 μF.
SWEEP/MARKER GENERATOR..... Connect to pin BA of PIF Board as shown in figure 1. Set to 30 ~ 45 MHz sweep with signal level of 80 ~ 90 dBμ.
OSCILLOSCOPE ..... Connect to pin 7 of IC101 on the PIF Board through detector (See figure below).

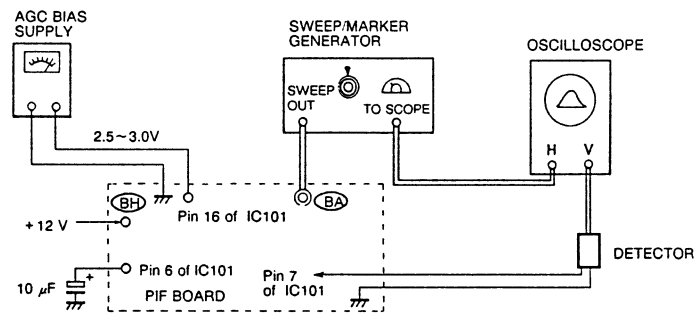
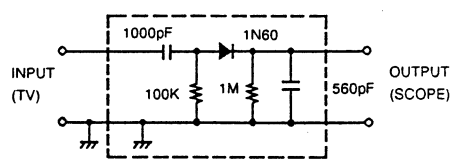


Figure 4. Picture IF Sweep Alignment

STEP	SWEEP/MARKER GENERATOR	ADJUST	REMARKS
38.9MHz VCO Coil	38.9 MHz Marker "ON"	L151	• Adjust L151 so that the marker (38.9 MHz) on the response can get zero beat with VCO frequency. (See figure 5.) • Remove the capacitor 10μF on pin 6 of IC101.
After completing the above step, disconnect the equipment and re-solder the solder links, and adjust the RF AGC control (R151) following RF AGC ADJUSTMENTS.			

Figure 5. Magnified Response Curve



Detector Diagram

AFC ALIGNMENT

GENERAL ..... Refer to figure 6 for test equipment connection.
PRELIMINARY STEPS ..... 1. Supply +12 volts to the PIF Board.
DVM ..... Connect to the pin BN of P101A on PIF Board and ground.

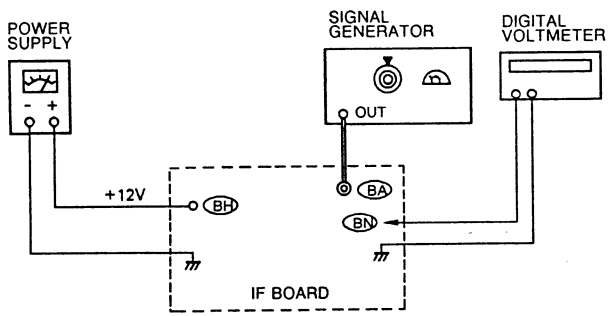


Figure 6. AFC Alignment

STEP	SIGNAL GENERATOR	ADJUST	REMARKS
1. AFC Balance (R153)	NO SIGNAL	R153	• Connect pin 16 of IC101 to ground. • Connect DVM to pin BN of P101A on PIF Board. • Adjust R153 for 4.5 volts reading on meter.
2. AFC Coil (L152)	38.9 MHz CARRIER WAVE (Level : 75 to 85 dBμ)	L152	• Remove the short of pin 16 of IC101. • Connect IF carrier wave to the pin BA of P102A. • Connect DVM to pin BN of P101A. • Adjust L152 for 4.5 volts on the meter.

SIF & MPX (IGR) ALIGNMENT

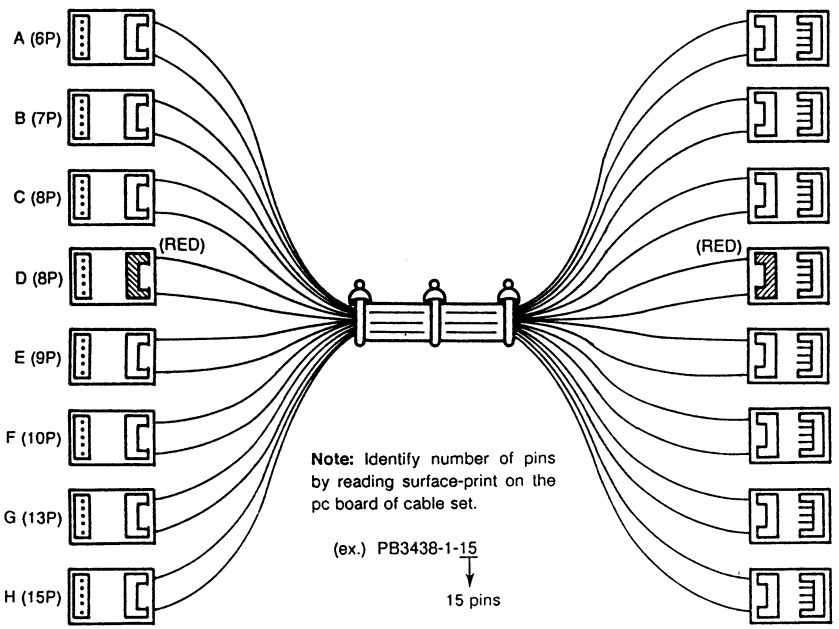
■ Supply +12V to pin DE of PG01 on IGR Board.

STEP	ADJUSTING PARTS	INPUT TERMINAL	OUTPUT TERMINAL	TEST SIGNAL	PROCEDURE
1.	5.5 MHz FM DET (LG04)	SIF IN (SG)	Pin 9 of ICG03 (millivol)	SG: f_0 = 5.5 MHz input 100dBμ	1. Connect SG to SIF input terminal. 2. Adjust LG05 for maximum reading on millivoltmeter. Note: Do not take wrong maximum point due to noise.
2.	5.74 MHz DET (LG03)	SIF IN (SG)	Pin 9 of ICG04 (millivol)	SG: f_0 = 5.74 MHz input 100dBμ	Adjust LG03 for maximum reading on millivoltmeter.
3.	54.7 kHz PILOT ADJ. (LG06)	Pin 4 of ICG01 0.01μF ④ ICG01	Pin 5 (ICG01)	Pilot Signal Input level: 100mVp-p f = 54.69 kHz	1. Connect the signal to pin 4 of ICG01. 2. Connect oscilloscope to pin 5 of ICG01. 3. Adjust LG06 for the maximum amplitude of 54.69 kHz element.
4.	STEREO SEPARATION (RG49)	SIF IN (TV)	L OUT (millivol) or (oscilloscope)	ON AIR SIGNAL: SIF intercarrier Lch no signal Rch 1kHz SG: SG1 5.5MHz fD = 15kHz SG2 5.74MHz fD = 30kHz fm = 1 kHz	Adjust RG49 for minimum reading on millivoltmeter.

EXTENSION CABLE SET

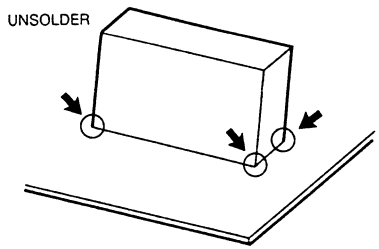
1. Extention Cable Set is available for servicing modules of C2DB chassis.
   For C3SR chassis, however, this cable is used only for PIF, IGR, NICAM, IGR NICAM modules.
2. Identify number of pins by reading surface-print on the pc board of cable set.

Part No.	Description
23305270	Extension Cable Set

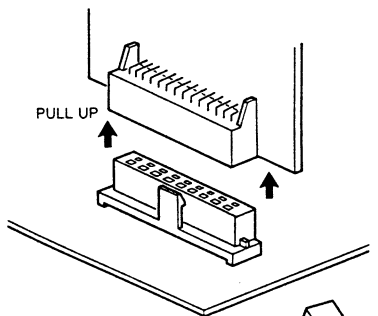


TO USE THE CABLE SET

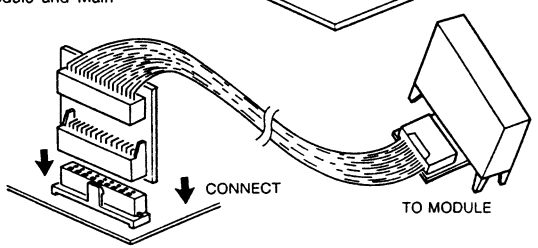
1. Unsolder corners on shielding case of module, which are marked with arrow in the figure.



2. Remove shielding case, and pull up module to disconnect.



3. Connect Extension Cable Set to module and Main board.



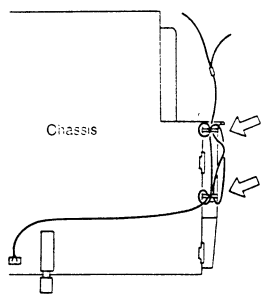
4. Reference chart of module and extension cable pin.

Board name	UK	FRANCE	ITALY	NORTH EUROPE /SPAIN	GERMANY	Remarks
PIF	8P×2	15P 8P	8P×2	8P×2	8P×2	Do not misuse 8P connectors.
IGR	–	10P 7P	10P 7P		10P 7P	
NICAM	10P	–	–	–	–	
IGR/NICAM	–	–	–	10P 7P	–	

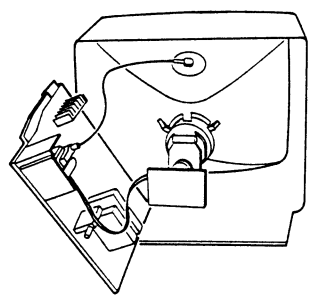
HOW TO MAKE THE CHASSIS STAND FOR REPAIR OF THE 2132DD (ordinary case)

* Where the installation location is wide enough so that the chassis does not come out of the rear side when it is made stand.

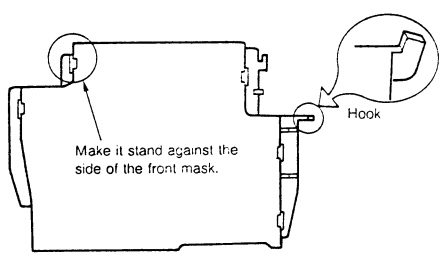
1. Remove the wire set for the loud speaker from the holder.



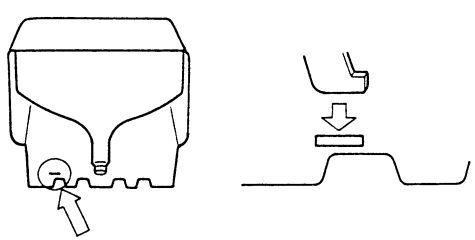
2. Lift up the chassis in such manner that it stands against the inner side surface of the front mask.



3. Insert the hook protruding from the right edge of the chassis into the horizontal slit of the left side of the bottom of the front mask, and slide it to the right to lock it.

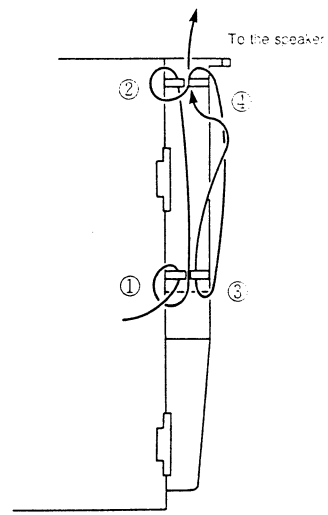


Make a part of the front end of the chassis stand against the side of the front mask (see the sketch).



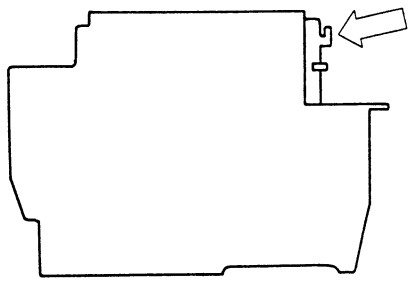
4. When replacing it, make sure to set the lead wire for the speaker to the holder as shown in the sketch below.

① Wind the wire by one turn around the front holder and bring it to the sender holder.
② Wind it around the sender holder as the step ①.
③ Return it to the front holder again, and bring it to the sender holder without winding but passing through the holder.
④ Without winding it around the sender holder, pass the wire through it and bring to the speaker.

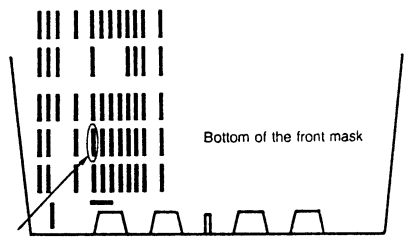


HOW TO MAKE THE CHASSIS STAND FOR REPAIR OF THE 2132DD (when the TV stand is used)

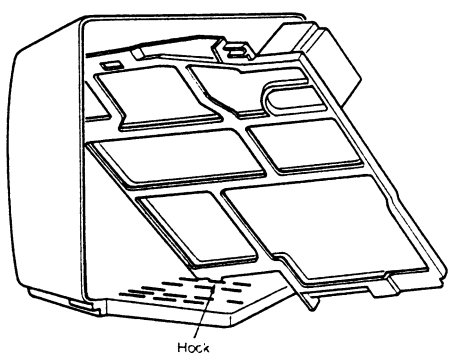
1. Remove the set wire of the speaker from the holder (in the same manner as before).



2. Lift up the chassis so that it stands against the inner side surface of the front mask.

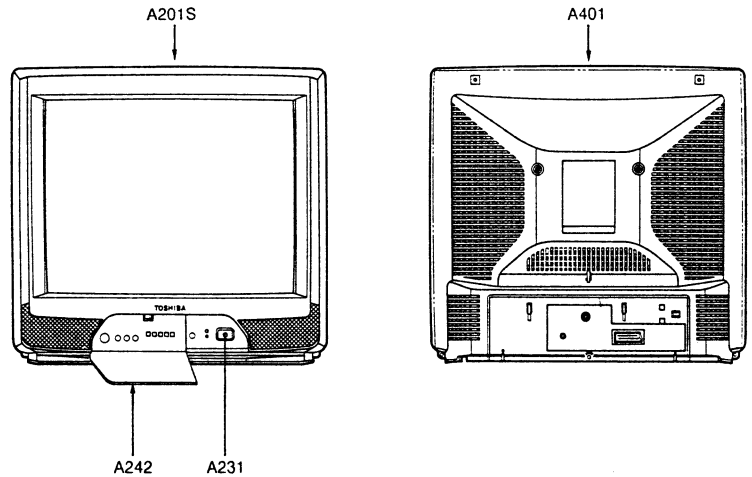


3. Insert the L-shape hook (different from the hook described before) protruding from the upper right of the chassis into one of the vertical slits on the bottom of the front mask, and slide and push it to lock. Make a part of the front edge of the chassis stand against the side of the front mask (see the sketch).



4. Same as before.

CABINET REPLACEMENT PARTS LIST



2132DD : 2137DD

Location No.	Part No.	Description
A201S	23419940	Front Cover (2132DD)
A201S	23419983	Front Cover (2137DD)
A215	23416760	Grille, Speaker (Right)
A216	23416761	Grille, Speaker (Left)
A231	23443736	Button, POWER (2132DD)
A231	23443797	Button, POWER (2137DD)
A241	70368125	Push Catch for Door
A242	23425453	Door (2132DD)
A242	23425635	Door (2137DD)
A401	23425502	Back Cover
A411	23568547	Label, Model No., B/C (2132DD)
A411	23568681	Label, Model No., B/C (2137DD)
A412	23998922	Label (on B/C)
A701	23524352	Carton Box
A702	23935191	Packing, Bottom
A703	23935221	Packing, Top
A710	23568548	Label, Model No., Carton (2132DD)
A710	23568682	Label, Model No., Carton (2137DD)

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The international hazard symbols in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE: The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.

ABBREVIATIONS:

Capacitors..... CD : Ceramic Disk PF : Plastic Film EL : Electrolytic
Resistors..... CF : Carbon Film CC : Carbon Composition MF : Metal Film
OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor
(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITORS		
C101	24814103	Chip, 0.01μF, +80%, −20%
C102	24814103	Chip, 0.01μF, +80%, −20%
C103	24794101	EL, 100μF, ±20%, 16V
C104	24794471	EL, 470μF, ±20%, 16V
C105	24814103	Chip, 0.01μF, +80%, −20%
C106	24794101	EL, 100μF, ±20%, 16V
C107	24815102	Chip, 1000pF, ±10%
C108	24778181	Chip, 180pF, RH
C109	24815102	Chip, 1000pF, ±10%
C110	24814103	Chip, 0.01μF, +80%, −20%
C111	24814103	Chip, 0.01μF, +80%, −20%
C113	24814103	Chip, 0.01μF, +80%, −20%
C114	24815102	Chip, 1000pF, ±10%
C115	24815102	Chip, 1000pF, ±10%
C116	24814103	Chip, 0.01μF, +80%, −20%
C117	24815102	Chip, 1000pF, ±10%
C118	24815102	Chip, 1000pF, ±10%
C119	24814103	Chip, 0.01μF, +80%, −20%
C120	24815102	Chip, 1000pF, ±10%
C121	24815102	Chip, 1000pF, ±10%
C122	24794330	EL, 33μF, ±20%, 16V
C123	24203330	EL, 33μF, ±20%, 16V
C124	24814103	Chip, 0.01μF, +80%, −20%
C125	24814103	Chip, 0.01μF, +80%, −20%
C126	24815102	Chip, 1000pF, ±10%
C127	24815102	Chip, 1000pF, ±10%
C128	24815102	Chip, 1000pF, ±10%
C130	24814103	Chip, 0.01μF, +80%, −20%
C131	24206478	EL, 0.47μF, 50V
C132	24203330	EL, 33μF, ±20%, 16V
C133	24814103	Chip, 0.01μF, +80%, −20%
C134	24085958	EL, 1μF, ±20%, 50V, Non-Polar
C135	24206478	EL, 0.47μF, 50V
C136	24814103	Chip, 0.01μF, +80%, −20%
C137	24781150	Chip, 15pF, SL
C138	24814103	Chip, 0.01μF, +80%, −20%
C139	24781150	Chip, 15pF, SL
C141	24206478	EL, 0.47μF, 50V
C143	24781180	Chip, 18pF, SL
C144	24814103	Chip, 0.01μF, +80%, −20%

Location No.	Part No.	Description
C145	24781360	Chip, 36pF, SL
C147	24814103	Chip, 0.01μF, +80%, −20%
C148	24203330	EL, 33μF, ±20%, 16V
C183	24797229	EL, 2.2μF, ±20%, 50V
C184	24797229	EL, 2.2μF, ±20%, 50V
C185	24232103	CD, 0.01μF, +80%, −20%
C187	24232103	CD, 0.01μF, +80%, −20%
C188	24232103	CD, 0.01μF, +80%, −20%
C189	24232103	CD, 0.01μF, +80%, −20%
C190	24232103	CD, 0.01μF, +80%, −20%
C193	24797229	EL, 2.2μF, ±20%, 50V
C194	24232103	CD, 0.01μF, +80%, −20%
C202	24794331	EL, 330μF, ±20%, 16V
C203	24232103	CD, 0.01μF, +80%, −20%
C204	24797220	EL, 22μF, ±20%, 50V
C205	24797478	EL, 0.47μF, ±20%, 50V
C206	24232103	CD, 0.01μF, +80%, −20%
C207	24797100	EL, 10μF, ±20%, 50V
C208	24232103	CD, 0.01μF, +80%, −20%
C209	24232103	CD, 0.01μF, +80%, −20%
C210	24797100	EL, 10μF, ±20%, 50V
C211	24232103	CD, 0.01μF, +80%, −20%
C212	24232103	CD, 0.01μF, +80%, −20%
C213	24232103	CD, 0.01μF, +80%, −20%
C240	24538474	PF, 0.47μF
C301	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
C302	24212152	CD, 1500pF, ±10%
C303	24617912	EL, 2.2μF, ±10%, 50V
C304	24212102	CD, 1000pF, ±10%
C306	24590102	PF, 1000pF
C307	24232103	CD, 0.01μF, +80%, −20%
C313	24796101	EL, 100μF, ±20%, 35V
C314	24435560	CD, 56pF, 500V
C316	24667332	EL, 3300μF, ±20%, 25V
C317	24617912	EL, 2.2μF, ±10%, 50V
C318	24082047	PF, 0.033μF, 100V
C320	24214221	CD, 220pF, ±10%, 500V
C323	24590563	PF, 0.056μF
C325	24795221	EL, 220μF, ±20%, 25V
C331	24796102	EL, 1000μF, ±20%, 35V

Location No.	Part No.	Description
C332	24082057	PF, 0.22μF, 100V
C368	24590104	PF, 0.1μF
C402	24353241	CD, 240pF
C403	24797339	EL, 3.3μF, ±20%, 50V
C404	24232103	CD, 0.01μF, +80%, −20%
C405	24590183	PF, 0.018μF
C406	24590183	PF, 0.018μF
C407	24590273	PF, 0.027μF
C408	24794221	EL, 220μF, ±20%, 16V
C410	24693272	PF, 2700pF, 100V
C412	24590182	PF, 1800pF
C414	24212331	CD, 330pF, ±10%
C416	24214102	CD, 1000pF, ±10%, 500V
C417	24214331	CD, 330pF, ±10%, 500V
⚠C440	24095665	PF, 8700pF, ±3%, 1250V
C441	24214221	CD, 220pF, ±10%, 500V
C442	24095755	PF, 0.47μF, 200V
C443	24214221	CD, 220pF, ±10%, 500V
C445	24095903	PF, 0.056μF, ±10%, 250V
C447	24700479	EL, 4.7μF, ±20%, 250V
C448	24640908	EL, 33μF, ±20%, 160V
C449	24795222	EL, 2200μF, ±20%, 25V
C450	24794471	EL, 470μF, ±20%, 16V
⚠C463	24212222	CD, 2200pF, ±10%
C470	24794220	EL, 22μF, ±20%, 16V
C471	24538474	PF, 0.47μF
C501	24797220	EL, 22μF, ±20%, 50V
C503	24436181	CD, 180pF
C504	24474181	CD, 180pF, ±10%
C505	24590273	PF, 0.027μF
C507	24590103	PF, 0.01μF
C508	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
C509	24232103	CD, 0.01μF, +80%, −20%
C510	24232103	CD, 0.01μF, +80%, −20%
C511	24232103	CD, 0.01μF, +80%, −20%
C513	24232103	CD, 0.01μF, +80%, −20%
C515	24797220	EL, 22μF, ±20%, 50V
C516	24590104	PF, 0.1μF
C517	24590104	PF, 0.1μF
C518	24232103	CD, 0.01μF, +80%, −20%
C519	24232103	CD, 0.01μF, +80%, −20%
C520	24797478	EL, 0.47μF, ±20%, 50V
C521	24797478	EL, 0.47μF, ±20%, 50V
C522	24797478	EL, 0.47μF, ±20%, 50V
C523	24797478	EL, 0.47μF, ±20%, 50V
C524	24232103	CD, 0.01μF, +80%, −20%
C525	24436820	CD, 82pF
C526	24436820	CD, 82pF
C527	24436820	CD, 82pF
C530	24796220	EL, 22μF, ±20%, 35V
C531	24794100	EL, 10μF, ±20%, 16V
C532	24436101	CD, 100pF
C533	24436101	CD, 100pF
C534	24436101	CD, 100pF
C535	24797100	EL, 10μF, ±20%, 50V
C536	24797478	EL, 0.47μF, ±20%, 50V
C537	24794471	EL, 470μF, ±20%, 16V
C538	24353200	CD, 20pF
C539	24353330	CD, 33pF
C540	24436221	CD, 220pF
C541	24436221	CD, 220pF
C542	24436221	CD, 220pF
C601	24814103	Chip, 0.01μF, +80%, −20%

Location No.	Part No.	Description
C602	24814103	Chip, 0.01μF, +80%, −20%
C603	24203330	EL, 33μF, ±20%, 16V
C613	24795101	EL, 100μF, ±20%, 25V
C616	24797100	EL, 10μF, ±20%, 50V
C617	24797100	EL, 10μF, ±20%, 50V
C620	24590103	PF, 0.01μF
C622	24590103	PF, 0.01μF
C623	24590563	PF, 0.056μF
C631	24797479	EL, 4.7μF, ±20%, 50V
C632	24797479	EL, 4.7μF, ±20%, 50V
C633	24538124	PF, 0.12μF
C634	24538124	PF, 0.12μF
C636	24797229	EL, 2.2μF, ±20%, 50V
C637	24795470	EL, 47μF, ±20%, 25V
C638	24795470	EL, 47μF, ±20%, 25V
C639	24796101	EL, 100μF, ±20%, 35V
C641	24795470	EL, 47μF, ±20%, 25V
C642	24797229	EL, 2.2μF, ±20%, 50V
C643	24797478	EL, 0.47μF, ±20%, 50V
C644	24795102	EL, 1000μF, ±20%, 25V
C645	24797478	EL, 0.47μF, ±20%, 50V
C646	24795102	EL, 1000μF, ±20%, 25V
C648	24590103	PF, 0.01μF
C649	24590103	PF, 0.01μF
C660	24797478	EL, 0.47μF, ±20%, 50V
C670	24232103	CD, 0.01μF, +80%, −20%
C671	24232103	CD, 0.01μF, +80%, −20%
C672	24232103	CD, 0.01μF, +80%, −20%
C673	24232103	CD, 0.01μF, +80%, −20%
C674	24797470	EL, 47μF, ±20%, 50V
C675	24797100	EL, 10μF, ±20%, 50V
C676	24797100	EL, 10μF, ±20%, 50V
C677	24590563	PF, 0.056μF
C678	24794470	EL, 47μF, ±20%, 16V
C679	24797470	EL, 47μF, ±20%, 50V
⚠C801	24082318	PF, 0.1μF, ±20%, AC250V
⚠C802	24094656	CD, 2200pF, ±20%, AC400V
⚠C803	24094656	CD, 2200pF, ±20%, AC400V
⚠C804	24082318	PF, 0.1μF, ±20%, AC250V
C807	24092281	CD, 4700pF, ±20%, AC250V
C808	24092281	CD, 4700pF, ±20%, AC250V
C809	24086871	EL, 120μF, ±20%, 400V
C810	24667221	EL, 220μF, ±20%, 25V
C811	24214471	CD, 470pF, ±10%, 500V
C812	24676220	EL, 22μF, ±20%, 100V
C813	24590272	PF, 2700pF
C814	24214471	CD, 470pF, ±10%, 500V
C815	24095931	PF, 2200pF, 1250V
C816	24795470	EL, 47μF, ±20%, 25V
C817	24092341	CD, 470pF, ±10%, 2kV
C818	24214471	CD, 470pF, ±10%, 500V
C819	24797470	EL, 47μF, ±20%, 50V
C820	24794470	EL, 47μF, ±20%, 16V
C827	24794471	EL, 470μF, ±20%, 16V
C828	24212101	CD, 100pF, ±10%
C829	24796102	EL, 1000μF, ±20%, 35V
C830	24092337	CD, 220pF, ±10%, 2kV
C831	24086953	EL, 220μF, ±20%, 160V
C833	24797100	EL, 10μF, ±20%, 50V
C835	24797479	EL, 4.7μF, ±20%, 50V
C836	24797100	EL, 10μF, ±20%, 50V
C837	24797100	EL, 10μF, ±20%, 50V
C840	24214471	CD, 470pF, ±10%, 500V
C846	24590104	PF, 0.1μF

Location No.	Part No.	Description
C849	24214471	CD, 470pF, ±10%, 500V
C901	24700100	EL, 10μF, ±20%, 250V
C902	24095923	PF, 4700pF, 1250V
CA01	24474101	CD, 100pF, ±10%
CA02	24474101	CD, 100pF, ±10%
CA03	24474101	CD, 100pF, ±10%
CA04	24474101	CD, 100pF, ±10%
CA05	24474101	CD, 100pF, ±10%
CA06	24474101	CD, 100pF, ±10%
CA07	24474101	CD, 100pF, ±10%
CA08	24212102	CD, 1000pF, ±10%
CA09	24797478	EL, 0.47μF, ±20%, 50V
CA10	24212102	CD, 1000pF, ±10%
CA11	24212102	CD, 1000pF, ±10%
CA12	24794102	EL, 1000μF, ±20%, 16V
CA13	24794100	EL, 10μF, ±20%, 16V
CA15	24232103	CD, 0.01μF, +80%, −20%
CA20	24794470	EL, 47μF, ±20%, 16V
CA21	24232103	CD, 0.01μF, +80%, −20%
CA22	24797010	EL, 1μF, ±20%, 50V
CA29	24232103	CD, 0.01μF, +80%, −20%
CA31	24436300	CD, 30pF
CA32	24436300	CD, 30pF
CA33	24212102	CD, 1000pF, ±10%
CA36	24590104	PF, 0.1μF
CA37	24590104	PF, 0.1μF
CA39	24436391	CD, 390pF
CA40	24436221	CD, 220pF
CA42	24590104	PF, 0.1μF
CA43	24590104	PF, 0.1μF
CA60	24436101	CD, 100pF
CA77	24232103	CD, 0.01μF, +80%, −20%
CA78	24794100	EL, 10μF, ±20%, 16V
CB01	24474101	CD, 100pF, ±10%
CB10	24797010	EL, 1μF, ±20%, 50V
CB11	24436101	CD, 100pF
CB12	24212561	CD, 560pF, ±10%
CB13	24212472	CD, 4700pF, ±10%
CB14	24797229	EL, 2.2μF, ±20%, 50V
CB15	24232103	CD, 0.01μF, +80%, −20%
CB16	24794330	EL, 33μF, ±20%, 16V
CF01	24797220	EL, 22μF, ±20%, 50V
CF02	24232103	CD, 0.01μF, +80%, −20%
CF03	24474221	CD, 220pF, ±10%
CF05	24353150	CD, 15pF
CF06	24353150	CD, 15pF
CF07	24590104	PF, 0.1μF
CF08	24212102	CD, 1000pF, ±10%
CF09	24212221	CD, 220pF, ±10%
CF10	24212102	CD, 1000pF, ±10%
CF11	24590104	PF, 0.1μF
CF12	24436470	CD, 47pF
CF14	24212271	CD, 270pF, ±10%
CF15	24590104	PF, 0.1μF
CF18	24353820	CD, 82pF
CF19	24590104	PF, 0.1μF
CF20	24590222	PF, 2200pF
CF21	24353120	CD, 12pF
CF22	24590104	PF, 0.1μF
CF23	24797100	EL, 10μF, ±20%, 50V
CF24	24232103	CD, 0.01μF, +80%, −20%
CF25	24797100	EL, 10μF, ±20%, 50V
CF26	24794331	EL, 330μF, ±20%, 16V
CG01	24781470	Chip, 47pF, SL

Location No.	Part No.	Description
CG02	24781470	Chip, 47pF, SL
CG14	24814103	Chip, 0.01μF, +80%, −20%
CG15	24814103	Chip, 0.01μF, +80%, −20%
CG16	24814103	Chip, 0.01μF, +80%, −20%
CG17	24203220	EL, 22μF, ±20%, 16V
CG18	24774150	Chip, 15pF, CH
CG20	24778620	Chip, 62pF, RH
CG21	24781201	Chip, 200pF, SL
CG22	24783220	Chip, 22pF, UJ
CG26	24538103	PF, 0.01μF
CG30	24814103	Chip, 0.01μF, +80%, −20%
CG31	24814103	Chip, 0.01μF, +80%, −20%
CG32	24203220	EL, 22μF, ±20%, 16V
CG33	24774150	Chip, 15pF, CH
CG34	24778680	Chip, 68pF, RH
CG35	24781201	Chip, 200pF, SL
CG36	24783220	Chip, 22pF, UJ
CG37	24538103	PF, 0.01μF
CG38	24781681	Chip, 680pF, SL
CG39	24590332	PF, 3300pF
CG40	24206229	EL, 2.2μF, 50V
CG41	24206229	EL, 2.2μF, 50V
CG42	24814103	Chip, 0.01μF, +80%, −20%
CG43	24203101	EL, 100μF, ±20%, 16V
CG44	24814103	Chip, 0.01μF, +80%, −20%
CG45	24206010	EL, 1μF, 50V
CG46	24538474	PF, 0.47μF
CG47	24206010	EL, 1μF, 50V
CG48	24203100	EL, 10μF, ±20%, 16V
CG49	24781102	Chip, 1000pF, SL
CG50	24206010	EL, 1μF, 50V
CG51	24203100	EL, 10μF, ±20%, 16V
CG52	24203100	EL, 10μF, ±20%, 16V
CG53	24814103	Chip, 0.01μF, +80%, −20%
CN01	24436270	CD, 27pF
CN02	24436270	CD, 27pF
CN04	24436101	CD, 100pF
CN16	24232103	CD, 0.01μF, +80%, −20%
CN96	24797229	EL, 2.2μF, ±20%, 50V
CV01	24797478	EL, 0.47μF, ±20%, 50V
CV02	24797478	EL, 0.47μF, ±20%, 50V
CV03	24797100	EL, 10μF, ±20%, 50V
CV04	24797478	EL, 0.47μF, ±20%, 50V
CV05	24797478	EL, 0.47μF, ±20%, 50V
CV06	24797100	EL, 10μF, ±20%, 50V
CV07	24797100	EL, 10μF, ±20%, 50V
CV08	24797478	EL, 0.47μF, ±20%, 50V
CV09	24797478	EL, 0.47μF, ±20%, 50V
CV10	24797100	EL, 10μF, ±20%, 50V
CV11	24797478	EL, 0.47μF, ±20%, 50V
CV12	24797478	EL, 0.47μF, ±20%, 50V
CV13	24797100	EL, 10μF, ±20%, 50V
CV15	24797010	EL, 1μF, ±20%, 50V
CV16	24232103	CD, 0.01μF, +80%, −20%
CV17	24232103	CD, 0.01μF, +80%, −20%
CV18	24794100	EL, 10μF, ±20%, 16V
CV20	24212101	CD, 100pF, ±10%
CV21	24212101	CD, 100pF, ±10%
CV22	24794100	EL, 10μF, ±20%, 16V
CV23	24794471	EL, 470μF, ±20%, 16V
CV24	24212271	CD, 270pF, ±10%
CV25	24212271	CD, 270pF, ±10%
CV28	24212561	CD, 560pF, ±10%
CV29	24212561	CD, 560pF, ±10%

Location No.	Part No.	Description
CV30	24212221	CD, 220pF, ±10%
CV46	24794101	EL, 100μF, ±20%, 16V
CV47	24232103	CD, 0.01μF, +80%, −20%
CV72	24794100	EL, 10μF, ±20%, 16V
CV73	24794100	EL, 10μF, ±20%, 16V
CV74	24794100	EL, 10μF, ±20%, 16V
CV80	24212182	CD, 1800pF, ±10%
CV81	24212182	CD, 1800pF, ±10%
CV82	24232103	CD, 0.01μF, +80%, −20%
CV83	24797470	EL, 47μF, ±20%, 50V
CV84	24797470	EL, 47μF, ±20%, 50V
CX02	24797478	EL, 0.47μF, ±20%, 50V
CX03	24797478	EL, 0.47μF, ±20%, 50V
CX04	24797478	EL, 0.47μF, ±20%, 50V
CX05	24797010	EL, 1μF, ±20%, 50V
CX06	24797010	EL, 1μF, ±20%, 50V
CX07	24797010	EL, 1μF, ±20%, 50V
CX08	24797100	EL, 10μF, ±20%, 50V
CX09	24797010	EL, 1μF, ±20%, 50V
CX10	24797010	EL, 1μF, ±20%, 50V
CX11	24797010	EL, 1μF, ±20%, 50V

RESISTORS

R101	24872131	Chip, 130 ohm, 1/16W
R102	24872151	Chip, 150 ohm, 1/16W
R103	24872391	Chip, 390 ohm, 1/16W
R104	24872133	Chip, 13k ohm, 1/16W
R105	24872432	Chip, 4300 ohm, 1/16W
R106	24872122	Chip, 1200 ohm, 1/16W
R107	24872121	Chip, 120 ohm, 1/16W
R108	24872820	Chip, 82 ohm, 1/16W
R109	24872332	Chip, 3300 ohm, 1/16W
R110	24872360	Chip, 36 ohm, 1/16W
R111	24552101	OMF, 100 ohm, 1/2W
R112	24872392	Chip, 3900 ohm, 1/16W
R113	24872153	Chip, 15k ohm, 1/16W
R114	24872102	Chip, 1k ohm, 1/16W
R115	24872103	Chip, 10k ohm, 1/16W
R116	24872472	Chip, 4700 ohm, 1/16W
R117	24872222	Chip, 2200 ohm, 1/16W
R118	24872103	Chip, 10k ohm, 1/16W
R119	24872473	Chip, 47k ohm, 1/16W
R120	24872223	Chip, 22k ohm, 1/16W
R121	24872473	Chip, 47k ohm, 1/16W
R122	24872103	Chip, 10k ohm, 1/16W
R123	24872472	Chip, 4700 ohm, 1/16W
R125	24872473	Chip, 47k ohm, 1/16W
R126	24872101	Chip, 100 ohm, 1/16W
R127	24872562	Chip, 5600 ohm, 1/16W
R128	24872360	Chip, 36 ohm, 1/16W
R129	24872682	Chip, 6800 ohm, 1/16W
R130	24872122	Chip, 1200 ohm, 1/16W
R132	24872472	Chip, 4700 ohm, 1/16W
R133	24872272	Chip, 2700 ohm, 1/16W
R134	24872152	Chip, 1500 ohm, 1/16W
R135	24872222	Chip, 2200 ohm, 1/16W
R136	24872272	Chip, 2700 ohm, 1/16W
R137	24872681	Chip, 680 ohm, 1/16W
R139	24872680	Chip, 68 ohm, 1/16W
R140	24872102	Chip, 1k ohm, 1/16W
R141	24872271	Chip, 270 ohm, 1/16W
R142	24872102	Chip, 1k ohm, 1/16W
R143	24872103	Chip, 10k ohm, 1/16W
R144	24872181	Chip, 180 ohm, 1/16W

Location No.	Part No.	Description
R145	24872823	Chip, 82k ohm, 1/16W
R146	24872102	Chip, 1k ohm, 1/16W
R148	24872102	Chip, 1k ohm, 1/16W
R151	24066599	VR, 5k ohm, 1/10W
R153	24066604	VR, 200k ohm, 1/10W
R164	24872105	Chip, 1M ohm, 1/16W
R166	24872472	Chip, 4700 ohm, 1/16W
R167	24872103	Chip, 10k ohm, 1/16W
R168	24872473	Chip, 47k ohm, 1/16W
R171	24872101	Chip, 100 ohm, 1/16W
R172	24872122	Chip, 1200 ohm, 1/16W
R174	24872103	Chip, 10k ohm, 1/16W
R177	24872101	Chip, 100 ohm, 1/16W
R178	24872471	Chip, 470 ohm, 1/16W
R180	24872471	Chip, 470 ohm, 1/16W
R181	24872471	Chip, 470 ohm, 1/16W
R182	24872331	Chip, 330 ohm, 1/16W
R183	24872681	Chip, 680 ohm, 1/16W
R184	24872151	Chip, 150 ohm, 1/16W
R185	24872101	Chip, 100 ohm, 1/16W
R186	24872101	Chip, 100 ohm, 1/16W
R187	24872471	Chip, 470 ohm, 1/16W
R188	24872101	Chip, 100 ohm, 1/16W
R189	24552102	OMF, 1k ohm, 1/2W
R208	24366101	CF, 100 ohm
R211	24366473	CF, 47k ohm
R212	24366103	CF, 10k ohm
R214	24366182	CF, 1800 ohm
R215	24366152	CF, 1500 ohm
R216	24366333	CF, 33k ohm
R217	24366101	CF, 100 ohm
R218	24366472	CF, 4700 ohm
R219	24366472	CF, 4700 ohm
R220	24366473	CF, 47k ohm
R221	24366473	CF, 47k ohm
R222	24366473	CF, 47k ohm
R223	24366472	CF, 4700 ohm
R226	24366101	CF, 100 ohm
R228	24366182	CF, 1800 ohm
R231	24366102	CF, 1k ohm
R233	24366152	CF, 1500 ohm
R237	24366561	CF, 560 ohm
R238	24366152	CF, 1500 ohm
R240	24366153	CF, 15k ohm
R241	24366183	CF, 18k ohm
R244	24366203	CF, 20k ohm
R245	24366622	CF, 6200 ohm
R246	24366103	CF, 10k ohm
R247	24366101	CF, 100 ohm
R252	24066597	VR, 1k ohm, 1/10W
R253	24066597	VR, 1k ohm, 1/10W
R255	24066601	VR, 20k ohm, 1/10W
R260	24366333	CF, 33k ohm
R261	24366153	CF, 15k ohm
R262	24366153	CF, 15k ohm
R266	24366153	CF, 15k ohm
R267	24366153	CF, 15k ohm
R268	24366184	CF, 180k ohm
R269	24366101	CF, 100 ohm
R270	24366822	CF, 8200 ohm
R301	24366221	CF, 220 ohm
R302	24366274	CF, 270k ohm
R303	24366223	CF, 22k ohm
R304	24366102	CF, 1k ohm

Location No.	Part No.	Description
R305	24366151	CF, 150 ohm
R306	24366471	CF, 470 ohm
R308	24382470	OMF, 47 ohm, 1W
R311	24552272	OMF, 2700 ohm, 1/2W
R312	24366183	CF, 18k ohm
R313	24366514	CF, 510k ohm
R318	24366102	CF, 1k ohm
R320	24366471	CF, 470 ohm
R321	24383331	OMF, 330 ohm, 2W
R323	24322109	OMF, 1 ohm, 1W
R325	24366183	CF, 18k ohm
⚠R327	24339829	OMF, 8.2 ohm, 2W
R335	24366274	CF, 270k ohm
R337	24552222	OMF, 2200 ohm, 1/2W
R351	24066602	VR, 50k ohm, 1/10W
R377	24366184	CF, 180k ohm
R378	24366224	CF, 220k ohm
R380	24366153	CF, 15k ohm
R402	24366273	CF, 27k ohm
R403	24366272	CF, 2700 ohm
R404	24552472	OMF, 4700 ohm, 1/2W
R405	24366431	CF, 430 ohm
R407	24366101	CF, 100 ohm
R408	24366562	CF, 5600 ohm
R409	24366204	CF, 200k ohm
R410	24552472	OMF, 4700 ohm, 1/2W
R411	24366391	CF, 390 ohm
R412	24366121	CF, 120 ohm
⚠R416	24510152	Cement, 1500 ohm, 5W
R418	24552103	OMF, 10k ohm, 1/2W
R419	24366560	CF, 56 ohm
R421	24366104	CF, 100k ohm
R440	24552103	OMF, 10k ohm, 1/2W
R441	24552103	OMF, 10k ohm, 1/2W
R442	24009951	OMF, 1k ohm, 1W
⚠R444	24569150	Cement, 15 ohm, 10W
R445	24383561	OMF, 560 ohm, 2W
⚠R448	24338338	OMF, 0.33 ohm, 1W
R452	24069547	VR, 5k ohm, 0.08W, CC
R470	24322568	OMF, 0.56 ohm, 1W
R471	24366101	CF, 100 ohm
R472	24376393	CF, 39k ohm, 1/2W
R474	24366331	CF, 330 ohm
R475	24366102	CF, 1k ohm
R477	24366153	CF, 15k ohm
R501	24366561	CF, 560 ohm
R502	24366334	CF, 330k ohm
R504	24366471	CF, 470 ohm
R507	24366822	CF, 8200 ohm
R508	24366561	CF, 560 ohm
R509	24366203	CF, 20k ohm
R511	24366202	CF, 2k ohm
R512	24366182	CF, 1800 ohm
R513	24366122	CF, 1200 ohm
R514	24366562	CF, 5600 ohm
R515	24366221	CF, 220 ohm
R516	24366221	CF, 220 ohm
R517	24366221	CF, 220 ohm
R518	24366475	CF, 4.7M ohm
R520	24366102	CF, 1k ohm
R521	24366562	CF, 5600 ohm
R522	24366185	CF, 1.8M ohm
R529	*24366154*	*CF, 150k ohm*
R533	24366162	CF, 1600 ohm

Location No.	Part No.	Description
R534	24366101	CF, 100 ohm
R535	24366301	CF, 300 ohm
R536	24366103	CF, 10k ohm
R537	24366162	CF, 1600 ohm
R538	24366331	CF, 330 ohm
R539	24366162	CF, 1600 ohm
R541	24366821	CF, 820 ohm
R542	24366201	CF, 200 ohm
R543	24366103	CF, 10k ohm
R544	24366101	CF, 100 ohm
R547	24366102	CF, 1k ohm
R548	24366102	CF, 1k ohm
R549	24366102	CF, 1k ohm
R551	24066955	VR, 1k ohm, 1/10W
R557	24066600	VR, 10k ohm, 1/10W
R558	24066600	VR, 10k ohm, 1/10W
R559	24066600	VR, 10k ohm, 1/10W
R565	24366560	CF, 56 ohm
R566	24366560	CF, 56 ohm
R567	24366560	CF, 56 ohm
R568	24366102	CF, 1k ohm
R570	24366272	CF, 2700 ohm
R571	24366272	CF, 2700 ohm
R572	24366272	CF, 2700 ohm
R580	24366391	CF, 390 ohm
R581	24366331	CF, 330 ohm
R591	24383153	OMF, 15k ohm, 2W
R592	24383153	OMF, 15k ohm, 2W
R593	24383153	OMF, 15k ohm, 2W
R601	24553100	OMF, 10 ohm, 1W
R602	24872153	Chip, 15k ohm, 1/16W
R603	24872562	Chip, 5600 ohm, 1/16W
R604	24872331	Chip, 330 ohm, 1/16W
R605	24872102	Chip, 1k ohm, 1/16W
R606	24872101	Chip, 100 ohm, 1/16W
R607	24872361	Chip, 360 ohm, 1/16W
R608	24872102	Chip, 1k ohm, 1/16W
R609	24872101	Chip, 100 ohm, 1/16W
R612	24366184	CF, 180k ohm
R614	24366152	CF, 1500 ohm
R619	24366562	CF, 5600 ohm
R620	24366562	CF, 5600 ohm
R632	24366562	CF, 5600 ohm
R633	24366229	CF, 2.2 ohm
R634	24366229	CF, 2.2 ohm
R636	24366562	CF, 5600 ohm
R639	24366562	CF, 5600 ohm
R640	24366182	CF, 1800 ohm
R641	24366182	CF, 1800 ohm
R642	24366101	CF, 100 ohm
R662	24366103	CF, 10k ohm
R663	24366104	CF, 100k ohm
R666	24366103	CF, 10k ohm
R667	24366103	CF, 10k ohm
R668	24366103	CF, 10k ohm
R670	24366153	CF, 15k ohm
R671	24366153	CF, 15k ohm
R672	24366153	CF, 15k ohm
R673	24366153	CF, 15k ohm
R674	24366223	CF, 22k ohm
R675	24366472	CF, 4700 ohm
R676	24366472	CF, 4700 ohm
R677	24366912	CF, 9100 ohm
R678	24366472	CF, 4700 ohm

Location No.	Part No.	Description
R679	24366104	CF, 100k ohm
R681	24366562	CF, 5600 ohm
R682	24366562	CF, 5600 ohm
R683	24366103	CF, 10k ohm
R684	24366103	CF, 10k ohm
R685	24366562	CF, 5600 ohm
R686	24366103	CF, 10k ohm
R687	24366103	CF, 10k ohm
R688	24366103	CF, 10k ohm
R689	24366103	CF, 10k ohm
R690	24366433	CF, 43k ohm
R691	24366433	CF, 43k ohm
⚠R801	24004914	Metal Glazed Resistor, 5.6M ohm, 1/2W
R803	24382683	OMF, 68k ohm, 1W
R805	24366101	CF, 100 ohm
R810	24366122	CF, 1200 ohm
R812	24552103	OMF, 10k ohm, 1/2W
R813	24366272	CF, 2700 ohm
R815	24552102	OMF, 1k ohm, 1/2W
R816	24382180	OMF, 18 ohm, 1W
R817	24322478	OMF, 0.47 ohm, 1W
R818	24321568	OMF, 0.56 ohm, 1/2W
R819	24366472	CF, 4700 ohm
R820	24366101	CF, 100 ohm
R825	24366472	CF, 4700 ohm
⚠R832	24546109	FR, 1.1 ohm, 1/2W
R842	24366681	CF, 680 ohm
R843	24366821	CF, 820 ohm
R848	24552332	OMF, 3300 ohm, 1/2W
R860	24552681	OMF, 680 ohm, 1/2W
R863	24366102	CF, 1k ohm
⚠R864	24546479	FR, 4.7 ohm, 1/2W
R865	24366681	CF, 680 ohm
R866	24366471	CF, 470 ohm
R867	24366103	CF, 10k ohm
R868	24366472	CF, 4700 ohm
R870	24383103	OMF, 10k ohm, 2W
⚠R872	24569629	Cement, 6.2 ohm, 10W
⚠R878	24531560	FR, 56 ohm, 1/2W
R879	24366472	CF, 4700 ohm
⚠R884	24531120	FR, 12 ohm, 1/2W
⚠R890	24000875	PTC Thermistor, 18 ohm, ±20%, 290V
R893	24366103	CF, 10k ohm
R901	24946272	CC, 2700 ohm, ±10%, 1/2W
R902	24946272	CC, 2700 ohm, ±10%, 1/2W
R903	24946272	CC, 2700 ohm, ±10%, 1/2W
⚠R920	24000907	FR, 3.9 ohm, 1W
RA01	24000244	MF, 30k ohm, ±1%, 1/4W
RA02	24019094	MF, 150k ohm, ±1%, 1/4W
RA03	24366103	CF, 10k ohm
RA04	24000530	MF, 7500 ohm, ±1%, 1/4W
RA05	24366103	CF, 10k ohm
RA06	24366103	CF, 10k ohm
RA07	24366222	CF, 2200 ohm
RA09	24366392	CF, 3900 ohm
RA11	24366102	CF, 1k ohm
RA12	24366103	CF, 10k ohm
RA13	24000244	MF, 30k ohm, ±1%, 1/4W
RA15	24366103	CF, 10k ohm
RA16	24366103	CF, 10k ohm
RA18	24366103	CF, 10k ohm
RA19	24366102	CF, 1k ohm

Location No.	Part No.	Description
RA20	24366561	CF, 560 ohm
RA21	24366561	CF, 560 ohm
RA23	24366471	CF, 470 ohm
RA24	24366225	CF, 2.2M ohm
RA25	24366333	CF, 33k ohm
RA26	24942226	CC, 22M ohm, 1/2W
RA27	24366333	CF, 33k ohm
RA28	24000245	MF, 33k ohm, ±1%, 1/4W
RA29	24366103	CF, 10k ohm
RA30	24366102	CF, 1k ohm
RA31	24366103	CF, 10k ohm
RA34	24000245	MF, 33k ohm, ±1%, 1/4W
RA35	24366223	CF, 22k ohm
RA36	24366102	CF, 1k ohm
RA39	24366103	CF, 10k ohm
RA40	24366102	CF, 1k ohm
RA41	24366102	CF, 1k ohm
RA43	24366123	CF, 12k ohm
RA44	24366152	CF, 1500 ohm
RA45	24366103	CF, 10k ohm
RA60	24366223	CF, 22k ohm
RA61	24366182	CF, 1800 ohm
RA62	24366103	CF, 10k ohm
RA63	24366103	CF, 10k ohm
RA64	24366103	CF, 10k ohm
RA65	24366103	CF, 10k ohm
RA66	24366102	CF, 1k ohm
RA67	24366153	CF, 15k ohm
RA68	24366471	CF, 470 ohm
RA69	24366471	CF, 470 ohm
RA71	24366473	CF, 47k ohm
RA72	24366101	CF, 100 ohm
RA77	24366472	CF, 4700 ohm
RA78	24366472	CF, 4700 ohm
RA79	24366153	CF, 15k ohm
RA81	24366102	CF, 1k ohm
RA82	24366473	CF, 47k ohm
RA83	24366102	CF, 1k ohm
RA86	24366472	CF, 4700 ohm
RA87	24366223	CF, 22k ohm
RA90	24366391	CF, 390 ohm
RA94	24366103	CF, 10k ohm
RA95	24366103	CF, 10k ohm
RA97	24366332	CF, 3300 ohm
RA98	24366682	CF, 6800 ohm
RA99	24366203	CF, 20k ohm
RB01	24366103	CF, 10k ohm
RB02	24366332	CF, 3300 ohm
RB03	24366103	CF, 10k ohm
RB04	24366103	CF, 10k ohm
RB05	24366332	CF, 3300 ohm
RB06	24366473	CF, 47k ohm
RB10	24366392	CF, 3900 ohm
RB11	24366471	CF, 470 ohm
RB12	24366223	CF, 22k ohm
RB13	24366564	CF, 560k ohm
RB14	24366123	CF, 12k ohm
RB15	24366392	CF, 3900 ohm
RB16	24366392	CF, 3900 ohm
RB19	24366473	CF, 47k ohm
RB20	24366152	CF, 1500 ohm
RB21	24366103	CF, 10k ohm
RF01	24366154	CF, 150k ohm
RF02	24366333	CF, 33k ohm

Location No.	Part No.	Description
RF04	24366103	CF, 10k ohm
RF05	24366103	CF, 10k ohm
RF06	24366102	CF, 1k ohm
RF07	24366682	CF, 6800 ohm
RF08	24366103	CF, 10k ohm
RF09	24366102	CF, 1k ohm
RF11	24366102	CF, 1k ohm
RF12	24366101	CF, 100 ohm
RF13	24366122	CF, 1200 ohm
RF14	24366822	CF, 8200 ohm
RF15	24366103	CF, 10k ohm
RF16	24366333	CF, 33k ohm
RF17	24366101	CF, 100 ohm
RF18	24366101	CF, 100 ohm
RF19	24366101	CF, 100 ohm
RF20	24366101	CF, 100 ohm
RF21	24366101	CF, 100 ohm
RF22	24366101	CF, 100 ohm
RF23	24366152	CF, 1500 ohm
RF24	24366152	CF, 1500 ohm
RF25	24366152	CF, 1500 ohm
RF26	24366152	CF, 1500 ohm
RF27	24366332	CF, 3300 ohm
RF28	24366392	CF, 3900 ohm
RF29	24366682	CF, 6800 ohm
RF30	24366682	CF, 6800 ohm
RF31	24366332	CF, 3300 ohm
RF32	24366102	CF, 1k ohm
RF33	24366102	CF, 1k ohm
RF34	24366102	CF, 1k ohm
RF35	24366682	CF, 6800 ohm
RF36	24366153	CF, 15k ohm
RF38	24366682	CF, 6800 ohm
RG01	24872561	Chip, 560 ohm, 1/16W
RG02	24872563	Chip, 56k ohm, 1/16W
RG03	24872563	Chip, 56k ohm, 1/16W
RG04	24872102	Chip, 1k ohm, 1/16W
RG07	24872221	Chip, 220 ohm, 1/16W
RG43	24872102	Chip, 1k ohm, 1/16W
RG44	24872153	Chip, 15k ohm, 1/16W
RG45	24872332	Chip, 3300 ohm, 1/16W
RG46	24872472	Chip, 4700 ohm, 1/16W
RG47	24872272	Chip, 2700 ohm, 1/16W
RG48	24872102	Chip, 1k ohm, 1/16W
RG49	24066927	VR, 5k ohm, 1/10W
RG50	24872242	Chip, 2400 ohm, 1/16W
RG55	24872471	Chip, 470 ohm, 1/16W
RG56	24872102	Chip, 1k ohm, 1/16W
RG57	24872153	Chip, 15k ohm, 1/16W
RG58	24872152	Chip, 1500 ohm, 1/16W
RG59	24872162	Chip, 1600 ohm, 1/16W
RG60	24872472	Chip, 4700 ohm, 1/16W
RG61	24872563	Chip, 56k ohm, 1/16W
RG62	24872103	Chip, 10k ohm, 1/16W
RG63	24872223	Chip, 22k ohm, 1/16W
RG64	24872101	Chip, 100 ohm, 1/16W
RG65	24872101	Chip, 100 ohm, 1/16W
RG66	24545100	FR, 10 ohm, 1/4W
RG67	24872102	Chip, 1k ohm, 1/16W
RG68	24872153	Chip, 15k ohm, 1/16W
RG98	24872562	Chip, 5600 ohm, 1/16W
RG99	24872472	Chip, 4700 ohm, 1/16W
RJ01	24000824	Chip Jumper, 2125 type
RJ02	24000824	Chip Jumper, 2125 type

Location No.	Part No.	Description
RJ03	24000824	Chip Jumper, 2125 type
RJ04	24000824	Chip Jumper, 2125 type
RJ05	24000824	Chip Jumper, 2125 type
RJ06	24000824	Chip Jumper, 2125 type
RJ07	24000824	Chip Jumper, 2125 type
RJ08	24000824	Chip Jumper, 2125 type
RJ09	24000824	Chip Jumper, 2125 type
RJ10	24000824	Chip Jumper, 2125 type
RJ51	24000824	Chip Jumper, 2125 type
RJ53	24000824	Chip Jumper, 2125 type
RJ54	24000824	Chip Jumper, 2125 type
RJ55	24000824	Chip Jumper, 2125 type
RJ56	24000824	Chip Jumper, 2125 type
RJ59	24000824	Chip Jumper, 2125 type
RJ60	24000824	Chip Jumper, 2125 type
RN01	24366102	CF, 1k ohm
RN02	24366152	CF, 1500 ohm
RN08	24366103	CF, 10k ohm
RN13	24366103	CF, 10k ohm
RN15	24366103	CF, 10k ohm
RN36	24366223	CF, 22k ohm
RN96	24366104	CF, 100k ohm
RV02	24366102	CF, 1k ohm
RV04	24366472	CF, 4700 ohm
RV05	24366472	CF, 4700 ohm
RV06	24366101	CF, 100 ohm
RV07	24366101	CF, 100 ohm
RV08	24366472	CF, 4700 ohm
RV09	24366472	CF, 4700 ohm
RV10	24366101	CF, 100 ohm
RV11	24366472	CF, 4700 ohm
RV12	24366472	CF, 4700 ohm
RV13	24366101	CF, 100 ohm
RV14	24366103	CF, 10k ohm
RV15	24366103	CF, 10k ohm
RV16	24366473	CF, 47k ohm
RV17	24366473	CF, 47k ohm
RV18	24366332	CF, 3300 ohm
RV19	24366222	CF, 2200 ohm
RV20	24366101	CF, 100 ohm
RV21	24366332	CF, 3300 ohm
RV22	24366471	CF, 470 ohm
RV23	24366101	CF, 100 ohm
RV24	24552750	OMF, 75 ohm, 1/2W
RV25	24366391	CF, 390 ohm
RV27	24366243	CF, 24k ohm
RV28	24366243	CF, 24k ohm
RV29	24366332	CF, 3300 ohm
RV31	24366820	CF, 82 ohm
RV32	24366820	CF, 82 ohm
RV34	24366151	CF, 150 ohm
RV36	24366910	CF, 91 ohm
RV39	24366910	CF, 91 ohm
RV40	24366680	CF, 68 ohm
RV41	24366103	CF, 10k ohm
RV42	24366750	CF, 75 ohm
RV43	24366620	CF, 62 ohm
RV44	24366620	CF, 62 ohm
RV45	24366620	CF, 62 ohm
RV46	24366101	CF, 100 ohm
RV47	24366104	CF, 100k ohm
RV48	24382101	OMF, 100 ohm, 1W
RV60	24552430	OMF, 43 ohm, 1/2W
RV61	24366130	CF, 13 ohm

Location No.	Part No.	Description
RV62	24366130	CF, 13 ohm
RV63	24366130	CF, 13 ohm
RV64	24366104	CF, 100k ohm
RV65	24366104	CF, 100k ohm
RV66	24366473	CF, 47k ohm
RV67	24366473	CF, 47k ohm
RV74	24552101	OMF, 100 ohm, 1/2W
RV80	24366103	CF, 10k ohm
RV81	24366153	CF, 15k ohm
RV82	24366103	CF, 10k ohm
RV83	24366153	CF, 15k ohm
RV84	24366103	CF, 10k ohm
RV85	24366103	CF, 10k ohm
RV86	24366912	CF, 9100 ohm
RV87	24366562	CF, 5600 ohm
RV88	24366221	CF, 220 ohm
RV91	24366821	CF, 820 ohm
RW21	24366101	CF, 100 ohm
RW22	24366101	CF, 100 ohm
RW25	24366681	CF, 680 ohm
RW26	24366681	CF, 680 ohm
RX01	24366102	CF, 1k ohm
RX02	24366101	CF, 100 ohm
RX03	24366101	CF, 100 ohm
RX07	24366101	CF, 100 ohm
RX12	24366102	CF, 1k ohm
RX13	24366332	CF, 3300 ohm
RX14	24366103	CF, 10k ohm
RX15	24366102	CF, 1k ohm
RX19	24366181	CF, 180 ohm
RX20	24366152	CF, 1500 ohm
RX21	24366181	CF, 180 ohm
RX22	24366181	CF, 180 ohm
RX25	24366182	CF, 1800 ohm
RX26	24366182	CF, 1800 ohm
RX27	24366102	CF, 1k ohm

COILS & TRANSFORMERS

L101	23238558	Coil, Peaking, TRF4R47AJ
L102	23261985	Coil, RF Choke, TRF9221
L103	23261985	Coil, RF Choke, TRF9221
L104	23237987	Coil, Peaking, TRF4100AC
L105	23237987	Coil, Peaking, TRF4100AC
L106	23262819	Coil, PIF, TRF1071D
L107	23262821	Coil, PIF, TRF1069
L108	23237987	Coil, Peaking, TRF4100AC
L110	23289220	Coil, Peaking, TRF4220AF
L111	23289109	Coil, Peaking, TRF41R0AF
L115	23237987	Coil, Peaking, TRF4100AC
L117	23237987	Coil, Peaking, TRF4100AC
L119	23237983	Coil, Peaking, TRF4220AC
L151	23262658	Coil, IF, TRF1153D
L152	23262813	Coil, IF, TRF1077D
L202	23289121	Coil, Peaking, TRF4121AF
L311	23103859	Coil (Ferrite Bead), TEM2011
L315	23289100	Coil, Peaking, TRF4100AF
L405	23221685	Coil, Choke, TLN3193
L406	23103859	Coil (Ferrite Bead), TEM2011
L441	23222660	Coil, Linearity, TLN2069
⚠L462	23227245	Deflction Yoke, YS-58324
L503	23238714	Coil, Peaking, TRF4100AJ
L551	23250972	Coil, 1H-Delay Matching, TRF5418D
L590	23289221	Coil, Peaking, TRF4221AF

Location No.	Part No.	Description
L591	23289100	Coil, Peaking, TRF4100AF
L680	23238714	Coil, Peaking, TRF4100AJ
L681	23238714	Coil, Peaking, TRF4100AJ
L682	23289100	Coil, Peaking, TRF4100AF
L810	23103859	Coil (Ferrite Bead), TEM2011
L811	23103859	Coil (Ferrite Bead), TEM2011
L821	23222694	Coil, Width, TLN2026
L823	23221747	Coil, Choke, TRF9253D
L826	23221746	Coil, Choke, TLN3155D
L829	23103859	Coil (Ferrite Bead), TEM2011
L842	23103859	Coil (Ferrite Bead), TEM2011
L866	23289229	Coil, Peaking, TRF42R2AF
L880	23222694	Coil, Width, TLN2026
⚠L901	23200205	Coil, Degaussing, TSB-2333AR
LA01	23289109	Coil, Peaking, TRF41R0AF
LA12	23221803	Coil, Choke, TLN3040D
LB01	23262682	Coil, IF, TRF1147T
LF01	23289100	Coil, Peaking, TRF4100AF
LF02	23289189	Coil, Peaking, TRF41R8AF
LF03	23289100	Coil, Peaking, TRF4100AF
LF04	23289100	Coil, Peaking, TRF4100AF
LF05	23289100	Coil, Peaking, TRF4100AF
LF07	23238714	Coil, Peaking, TRF4100AJ
LF08	23238714	Coil, Peaking, TRF4100AJ
LF09	23238714	Coil, Peaking, TRF4100AJ
LF10	23238714	Coil, Peaking, TRF4100AJ
LF11	23238714	Coil, Peaking, TRF4100AJ
LF12	23238714	Coil, Peaking, TRF4100AJ
LF13	23289101	Coil, Peaking, TRF4101AF
LG01	23237986	Coil, Peaking, TRF4120AC
LG03	23232946	Coil, Variable, TRF3073D
LG04	23232946	Coil, Variable, TRF3073D
LG06	23262808	Coil, IF, TRF1082
LN01	23289150	Coil, Peaking, TRF4150AF
LV01	23238707	Coil, Peaking, TRF4390AJ
T101	23232002	Transformer, Variable, TRF3520D
T102	23262843	Coil, PIF Trap, TRF1457D
⚠T401	23224983	Transformer, Horiz. Drive, TLN1039
⚠T461	23236448	Transformer, Flyback, TFB4116AR
⚠T801	23211644	Line Filter, TRF3118G
⚠T803	23217204	Transformer, Converter, TPW3280AR

SEMICONDUCTORS

IC101	23318391	IC, AN5179K
IC102	B0372560	IC, TA78L005AP
IC103	B0372960	IC, TA78L009AP
IC303	B0377890	IC, TA8403K
IC408	23319203	IC, MC7812CT
IC501	B0384303	IC, TA8808BN
IC605	B0376856	IC, TA8211AH
IC606	23319808	IC, M5218AP
IC661	B0356190	IC, TA7630P
⚠IC801	23904247	IC, STR-S6708
⚠IC827	A6907751	IC, S1854
IC835	23318299	IC, L78MR05
ICA01	23904306	IC, M37210M2-580
ICA02	23318482	IC, M6M80011AP
ICA03	23119441	IC, LA7910
ICF01	23904245	IC, CF70095
ICF02	23904246	IC, CF72306

Location No.	Part No.	Description
ICF08	70119743	IC, PST523D
ICG01	23904262	IC, TDA6620-2
ICG03	B0325290	IC, TA7337P
ICG04	B0325290	IC, TA7337P
ICV01	B0383505	IC, TA8720AN
ICX01	23119139	IC, AN5862K
Q104	A6359860	Transistor, 2SC3326-A
Q105	A6359860	Transistor, 2SC3326-A
Q106	A6357139	Transistor, 2SC3125 FA-6
Q107	A6335477	Transistor, 2SC2712-Y
Q108	A6357139	Transistor, 2SC3125 FA-6
Q109	A6357139	Transistor, 2SC3125 FA-6
Q110	A6541130	Transistor, 2SA1162-Y
Q112	A6043342	Transistor, 2SK209GR
Q113	A6541130	Transistor, 2SA1162-Y
Q115	A6317440	Transistor, 2SC1815-Y
Q116	A6335477	Transistor, 2SC2712-Y
Q119	A6541130	Transistor, 2SA1162-Y
Q120	A6335477	Transistor, 2SC2712-Y
Q121	A6004030	Transistor, RN1403
Q204	A6317440	Transistor, 2SC1815-Y
Q205	A6317440	Transistor, 2SC1815-Y
Q208	A6317440	Transistor, 2SC1815-Y
Q363	A6317440	Transistor, 2SC1815-Y
Q402	A6330069	Transistor, 2SC2482 FA-1
⚠ Q404	23314375	Transistor, ON4409(508D)
Q470	A6547250	Transistor, 2SA1320
Q505	A6363200	Transistor, 2SC3619
Q506	A6317440	Transistor, 2SC1815-Y
Q507	A6363200	Transistor, 2SC3619
Q508	A6317440	Transistor, 2SC1815-Y
Q509	A6363200	Transistor, 2SC3619
Q510	A6317440	Transistor, 2SC1815-Y
Q514	A6509127	Transistor, 2SA562TM-O(T)
Q516	A6321265	Transistor, 2SC2120-Y(TM)
Q601	A6335477	Transistor, 2SC2712-Y
Q602	A6335477	Transistor, 2SC2712-Y
Q604	A6534053	Transistor, 2SA1015-Y(TE)
Q608	A6010040	Transistor, RN2004
Q621	A6342206	Transistor, 2SC2878-A(TE)
Q622	A6342206	Transistor, 2SC2878-A(TE)
Q633	A6342206	Transistor, 2SC2878-A(TE)
Q634	A6342206	Transistor, 2SC2878-A(TE)
Q662	A6317440	Transistor, 2SC1815-Y
Q663	A6317440	Transistor, 2SC1815-Y
Q802	23314141	Transistor, 2SC3852
⚠ Q826	A8643106	Photo Coupler, TLP621(GR)
Q828	A6317440	Transistor, 2SC1815-Y
Q831	A6317440	Transistor, 2SC1815-Y
Q836	A6534053	Transistor, 2SA1015-Y(TE)
Q861	23314141	Transistor, 2SC3852
Q870	A6333346	Transistor, 2SC2655-Y(C)
Q871	A6317440	Transistor, 2SC1815-Y
QA04	A6317440	Transistor, 2SC1815-Y
QA06	A6317440	Transistor, 2SC1815-Y
QA25	A6317440	Transistor, 2SC1815-Y
QB01	A6317440	Transistor, 2SC1815-Y
QB02	A6317440	Transistor, 2SC1815-Y
QB11	A6317440	Transistor, 2SC1815-Y
QB12	A6534053	Transistor, 2SA1015-Y(TE)
QB13	A6534053	Transistor, 2SA1015-Y(TE)
QF03	A6317440	Transistor, 2SC1815-Y
QF04	A6317440	Transistor, 2SC1815-Y
QF05	A6317440	Transistor, 2SC1815-Y

Location No.	Part No.	Description
QF06	A6534053	Transistor, 2SA1015-Y(TE)
QF07	A6317440	Transistor, 2SC1815-Y
QG06	A6335477	Transistor, 2SC2712-Y
QG13	A6335477	Transistor, 2SC2712-Y
QV02	A6534053	Transistor, 2SA1015-Y(TE)
QV03	A6317440	Transistor, 2SC1815-Y
QV04	A6319311	Transistor, 2SC1959-Y(TE)
QV05	A6317440	Transistor, 2SC1815-Y
QX08	A6317440	Transistor, 2SC1815-Y
QX09	A6317440	Transistor, 2SC1815-Y
QX10	A6317440	Transistor, 2SC1815-Y
D101	A7150258	Diode, 1SS176
D102	A7150258	Diode, 1SS176
D103	A7288601	Diode, 1S2186 FA-1
D108	23115878	Diode, Zener, μPC574J, (L)
D109	23115599	Diode, 1N4148
D201	A7150041	Diode, 1SS104
D203	23115599	Diode, 1N4148
D204	23115599	Diode, 1N4148
D205	23115599	Diode, 1N4148
D302	23118479	Diode, BYD33J
D303	23118479	Diode, BYD33J
D312	24000255	Diode, SC570A
D315	23316486	Diode, Zener, RD7.5JS, B2
D367	23115599	Diode, 1N4148
D401	23316333	Diode, Zener, UZ12BSB
D402	23316348	Diode, Zener, UZ20BSB
D403	23316333	Diode, Zener, UZ12BSB
D406	23118479	Diode, BYD33J
D408	23118052	Diode, RU4Z
D410	23316321	Diode, Zener, UZ8.2BSB
D471	A7801233	SCR, SF0R3G42(G5H1)
D474	23316345	Diode, Zener, UZ18BSB
D475	23316333	Diode, Zener, UZ12BSB
D590	23115599	Diode, 1N4148
D591	23115599	Diode, 1N4148
D592	23115599	Diode, 1N4148
D594	23115599	Diode, 1N4148
D595	23115599	Diode, 1N4148
D596	23115599	Diode, 1N4148
D601	23115599	Diode, 1N4148
D636	23115599	Diode, 1N4148
D637	23115599	Diode, 1N4148
D638	23115599	Diode, 1N4148
D639	23115599	Diode, 1N4148
D640	23115599	Diode, 1N4148
D641	23115599	Diode, 1N4148
D642	23115599	Diode, 1N4148
D670	23115599	Diode, 1N4148
D671	23115599	Diode, 1N4148
D672	23115599	Diode, 1N4148
D673	23115599	Diode, 1N4148
D801	23118037	Diode, RBV406M LF-B
D802	23118479	Diode, BYD33J
D803	23118479	Diode, BYD33J
D804	23316315	Diode, Zener, UZ6.8BSB
D805	23115599	Diode, 1N4148
D806	23118479	Diode, BYD33J
D807	23118479	Diode, BYD33J
D808	23118479	Diode, BYD33J
D809	23316309	Diode, Zener, UZ5.6BSB
D810	23115599	Diode, 1N4148
D811	23115599	Diode, 1N4148
D812	23115599	Diode, 1N4148

Location No.	Part No.	Description
D813	23118479	Diode, BYD33J
D814	23115599	Diode, 1N4148
D815	23316339	Diode, Zener, UZ15BSB
D816	23316311	Diode, Zener, UZ6.2BSA
D825	23115599	Diode, 1N4148
D826	23115599	Diode, 1N4148
D830	23118052	Diode, RU4Z
D831	23118479	Diode, BYD33J
D832	23118451	Diode, RU-4A
D844	23316315	Diode, Zener, UZ6.8BSB
D848	23316302	Diode, Zener, UZ4.7BSB
D861	23316309	Diode, Zener, UZ5.6BSB
D875	23115599	Diode, 1N4148
D878	23316329	Diode, Zener, UZ11BSA
DA04	23115599	Diode, 1N4148
DA05	23115599	Diode, 1N4148
DA06	23115599	Diode, 1N4148
DA32	23115599	Diode, 1N4148
DA96	23316312	Diode, Zener, UZ6.2BSB
DA98	23316312	Diode, Zener, UZ6.2BSB
DA99	23316312	Diode, Zener, UZ6.2BSB
DE50	23358504	Diode (LED), SCL003URC3FX, Red
DF02	A7288690	Variable Capacitor, 1SV101
DF03	23115599	Diode, 1N4148
DG08	A7150258	Diode, 1SS176
DG99	A7153000	Diode, 1SS241
DV01	23316324	Diode, Zener, UZ9.1BSB
DV12	23316327	Diode, Zener, UZ10BSB
DV13	23316327	Diode, Zener, UZ10BSB
DV40	23115599	Diode, 1N4148
DV41	23316302	Diode, Zener, UZ4.7BSB
DX04	23115599	Diode, 1N4148
DX05	23115599	Diode, 1N4148
DX06	23115599	Diode, 1N4148
DX07	23115599	Diode, 1N4148
DX08	23115599	Diode, 1N4148
DX09	23115599	Diode, 1N4148
DX10	23115599	Diode, 1N4148
DX11	23115599	Diode, 1N4148
DX12	23316302	Diode, Zener, UZ4.7BSB
DX13	23115599	Diode, 1N4148

MISCELLANEOUS

⚠ F801	23144473	Fuse, 5.0A
F801A	23165433	Holder, Fuse
⚠ F803	23144875	Fuse, 0.63A
F803A	23165433	Holder, Fuse
K901	23120220	Remote Sensor, IR-9109A-K
P101A	23368006	Connector, 8P
P101B	23902743	Connector, 8P
P102A	23368006	Connector, 8P
P102B	23902743	Connector, 8P
P410A	23902750	Connector, 7P
P410B	23368518	Connector, 7P
P411A	23902750	Connector, 7P
P411B	23368518	Connector, 7P
P412A	23902751	Connector, 8P
P412B	23368519	Connector, 8P
P413A	23902751	Connector, 8P
P413B	23368519	Connector, 8P
⚠ P801	23176705	Power Cord
PG01A	23368130	Connector, 10P
PG01B	23902213	Connector, 10P

Location No.	Part No.	Description
PG02A	23368511	Connector, 7P
PG02B	23902742	Connector, 7P
PH01	23365598	21 Pin Connector
PH20	23363252	Pin Jack, Yellow
PH21	23365508	Jack, Phono, 2P
PH23	23365515	Jack, 4P
S202	23344333	Switch, Lever, 1C3P
⚠ S801	23145434	Switch, Power, 2C2P
SA01	23145428	Switch, Push, 1C1Px4
SA02	23145430	Switch, Push, 1C1P
⚠ V901A	23902067	Socket, CRT, 10P
W201	23250877	Delay Line, TRF2082
W501	23153653	1H Delay Line, PAL, ED645A-91S
W661	23351003	Speaker, SPK-1277, 60x70mm, 8 ohm
W662	23351003	Speaker, SPK-1277, 60x70mm, 8 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153979	Crystal, 4.43MHz
XA01	23153845	Ceramic Resonator, 4MHz, TCR1015
XF01	23153657	Crystal, 13.875MHz
Z101	A5615249	PIF SAW Filter, F1804D
Z102	23107927	Ceramic Video Trap, 5.5MHz, TCF1011
Z105	23107913	Ceramic Video Trap, 6.5MHz, TCF1018
Z661	23107742	Filter, TEM1014
Z662	23107742	Filter, TEM1014
Z663	23107742	Filter, TEM1014
Z664	23107742	Filter, TEM1014
ZF01	23107744	Filter, 3MHz, TEM1012
ZG02	23107855	Ceramic Filter, 5.5MHz, TCF1031
ZG04	23107856	Ceramic Filter, 5.74MHz, TCF1030
⚠ ZP31	23144452	Protector, PRF1000
⚠ ZP81	23144451	Protector, PRF5000
ZV02	23107744	Filter, 3MHz, TEM1012
ZV04	23107744	Filter, 3MHz, TEM1012
ZV06	23107744	Filter, 3MHz, TEM1012
ZV08	23107744	Filter, 3MHz, TEM1012
ZV09	23107744	Filter, 3MHz, TEM1012
ZV10	23107744	Filter, 3MHz, TEM1012
ZZ01	23107849	Ceramic Video Trap, 4.43MHz, TCF1032

PC BOARD ASSEMBLIES

U902A	23701785	Signal Board, PB3628-1
U902B	23701786	CRT Drive Board, PB3628-2
U903	23701770	Power/Def/Audio Board, PB3629
Y991Z(U101)	23791521	PIF Board, PB3627
Y992Z(UG01)	23791014	IGR Board, PB2878

PICTURE TUBE

⚠ V901	A5385239	Picture Tube, A51KSV40X(M), SVC

TUNER

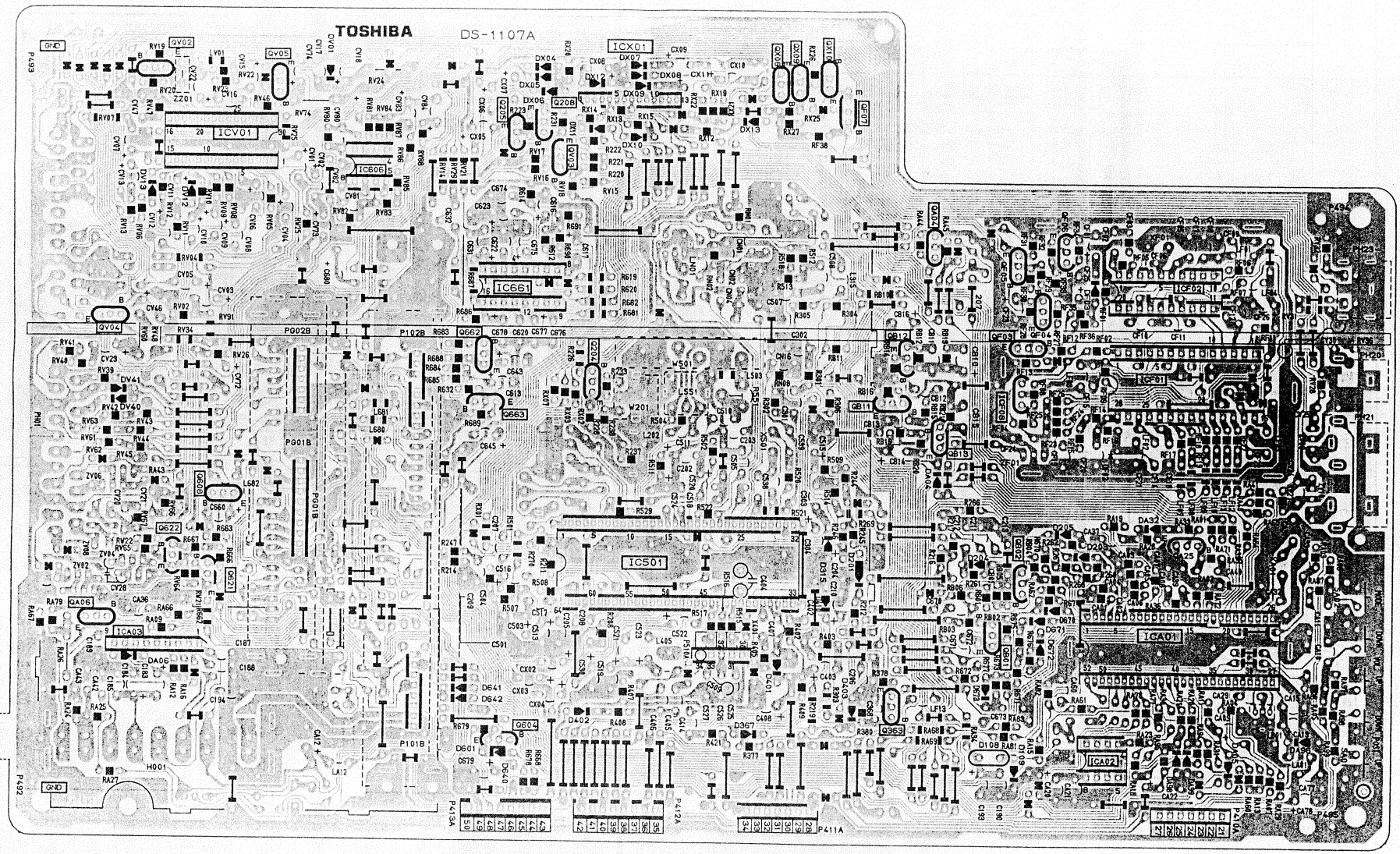
H001	23321066	Tuner, VHF/UHF, EG464

Location No.	Part No.	Description
ACCESSORIES		
K902	23120268	Remote Hand Unit, CT-9673
AT03	23305085	Battery Cover
Y101	23561848	Owner's Manual, English, 2132DD/2137DD

Location No.	Part No.	Description

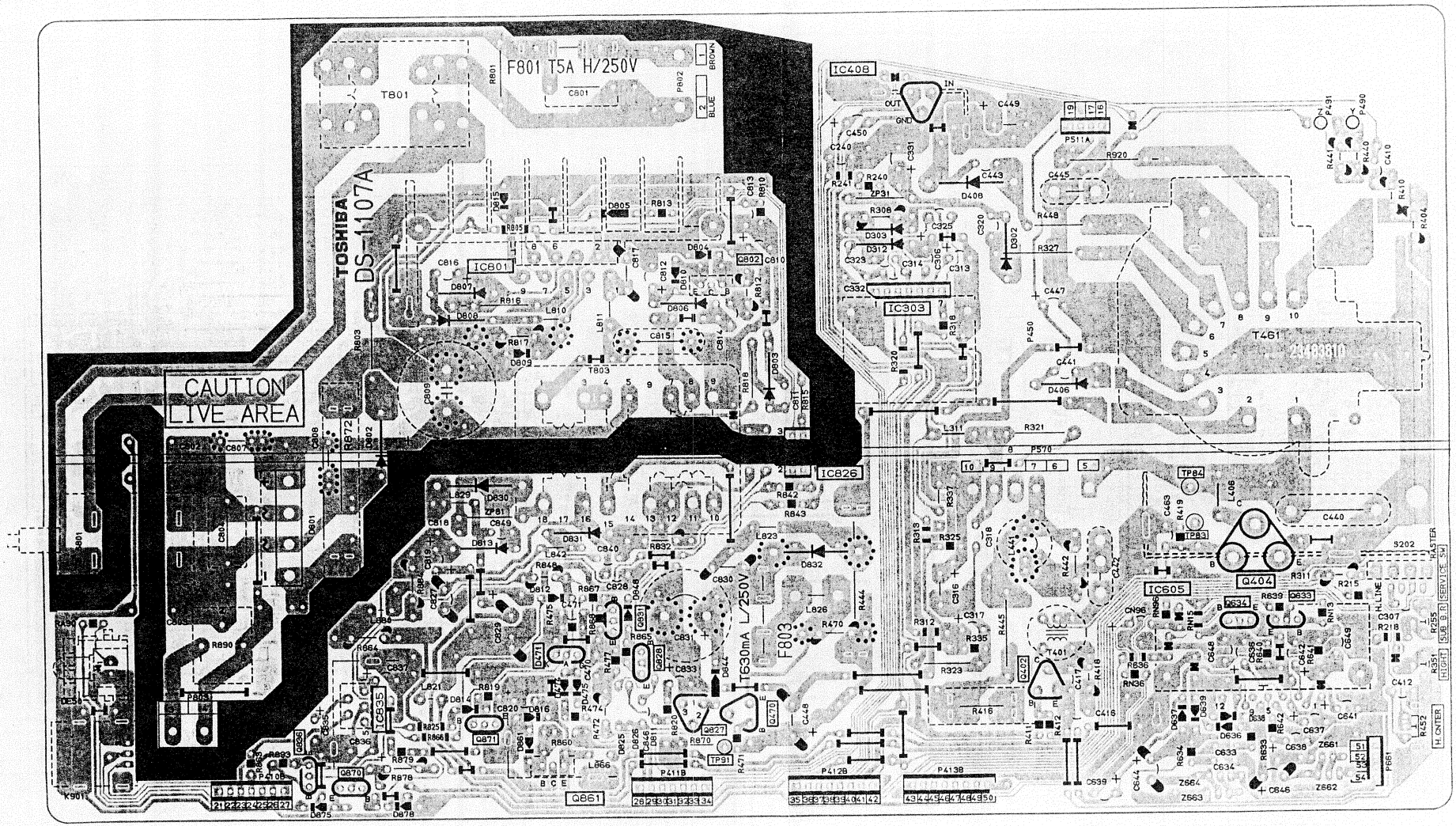
SIGNAL BOARD PB3628-1

BOTTOM (FOIL) SIDE



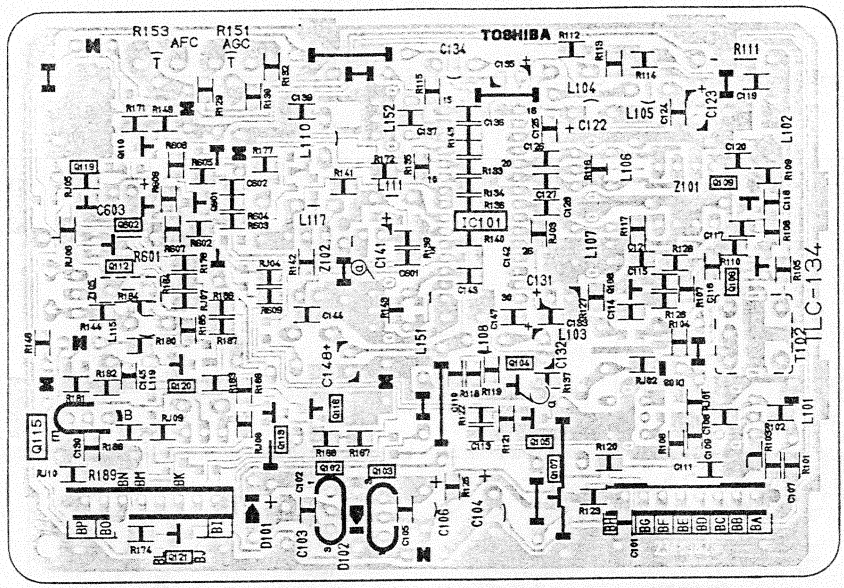
POWER/DEF/AUDIO BOARD PB3629

BOTTOM (FOIL) SIDE



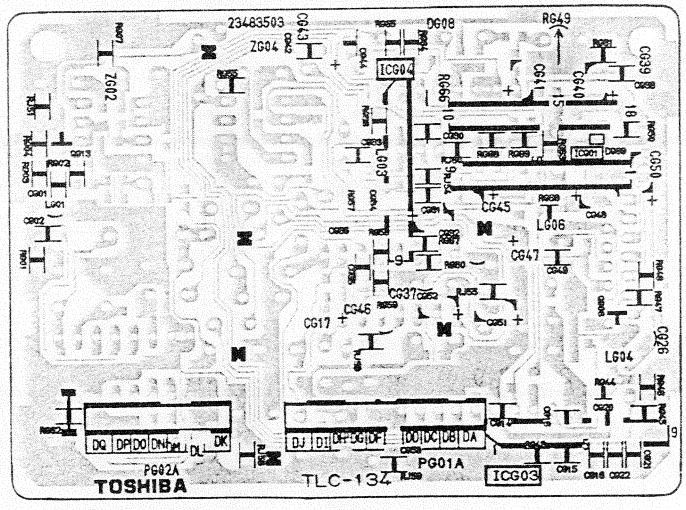
PIF BOARD PB3627

BOTTOM (FOIL) SIDE



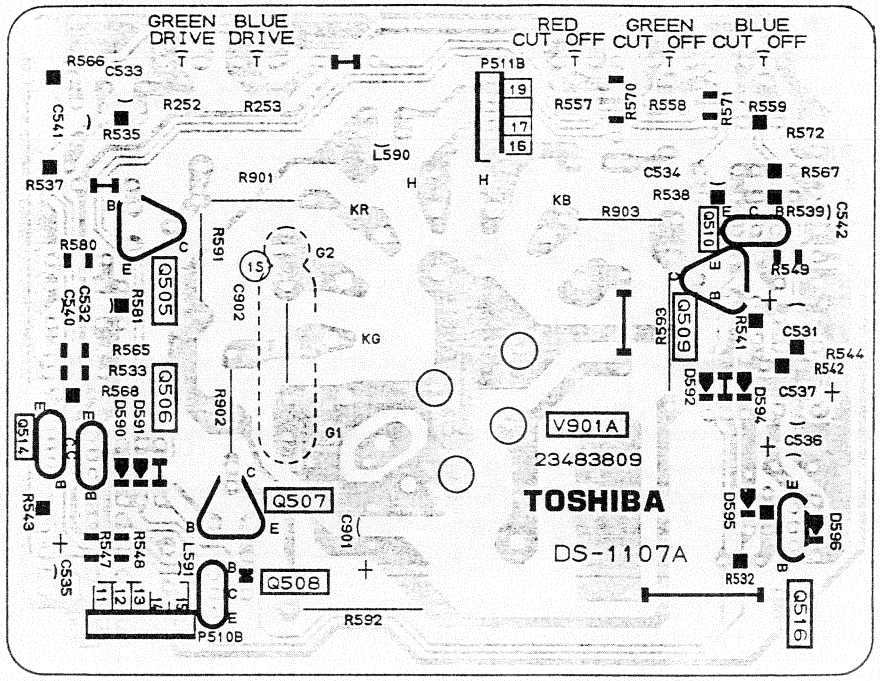
IGR BOARD PB2878

BOTTOM (FOIL) SIDE



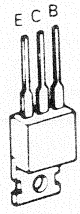
CRT DRIVE BOARD PB3628-2

BOTTOM (FOIL) SIDE

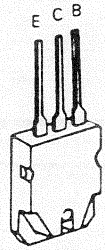


TERMINAL VIEW OF TRANSISTORS

① 2SC1569



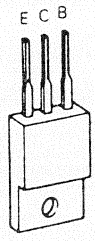
② 2SC3927(A)



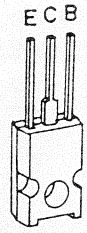
③ 2SC2580-C
2SC2655

④ 2SA933S
2SA1015-Y
2SA1320-Y
2SC752GTM
2SC1685-Q
2SC1740S
2SC1815-N
2SC1959-Y
2SC2120-Y
2SC2878-A

⑤ 2SB1186A
2SC3852
2SD2253

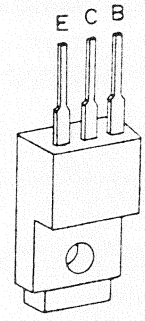


⑥ 2SC3619

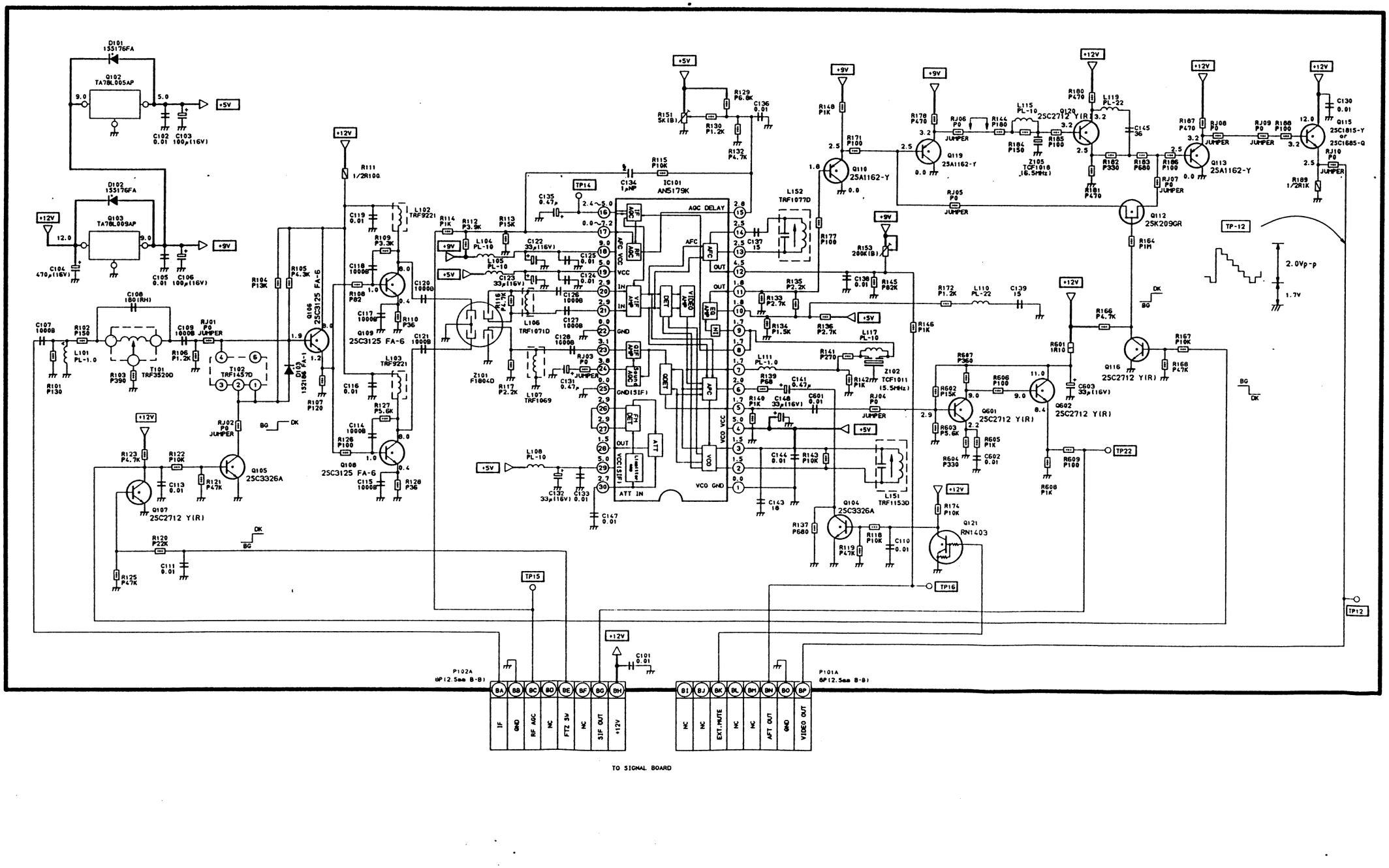


⑦ RN1203
RN1204
RN1206
RN2004

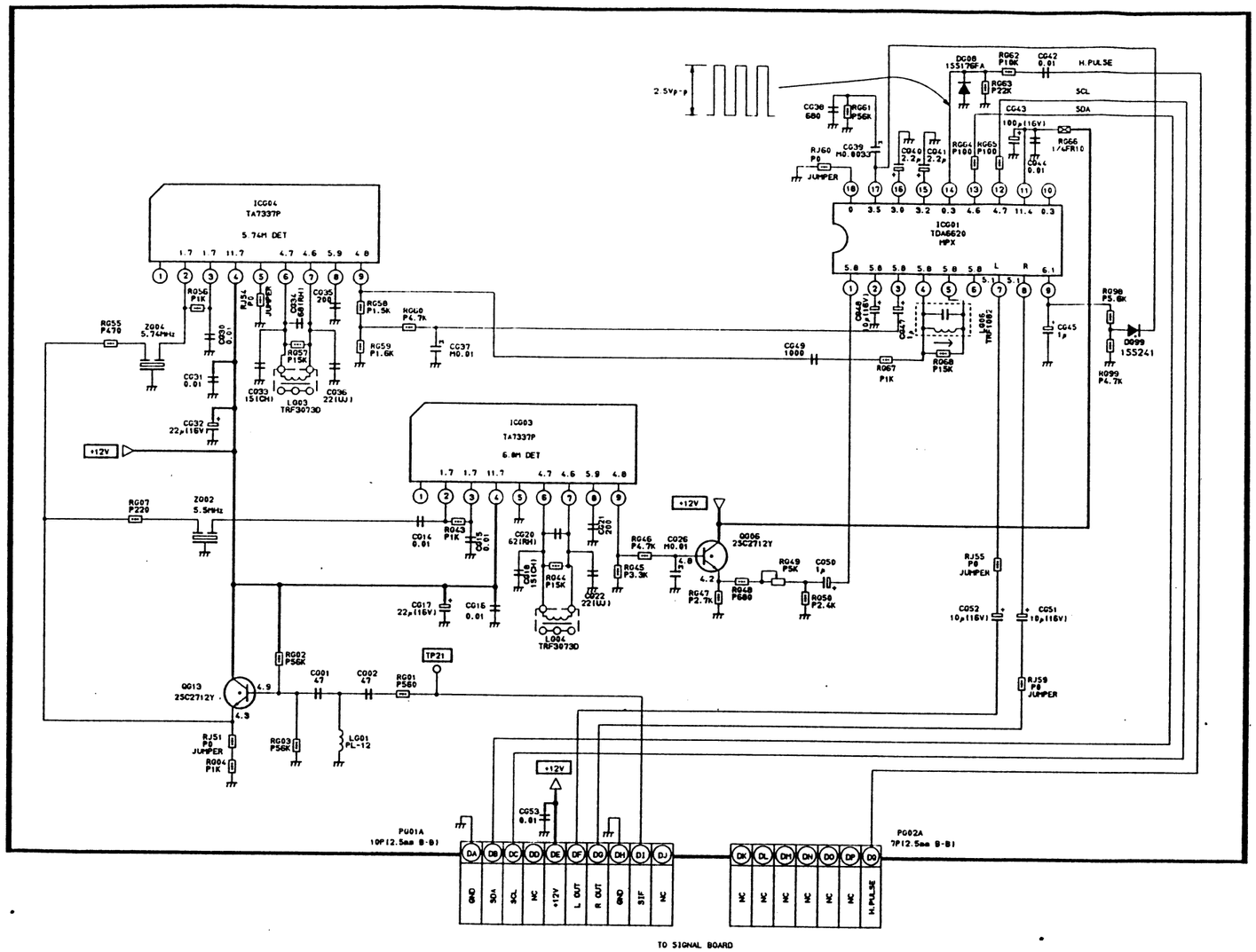
⑧ 2SB1186A
2SD1763A



U101 PIF BOARD PB3627


D101 1SS176FA
Q102 TA78L005AP
D102 1SS176FA
Q103 TA78L009AP
+12V
+9V
+5V
+5V
+12V
+9V
+12V
+9V
+5V
+12V
+9V
+12V
+12V
+12V
+12V
+12V
+9V
+5V
+12V
+9V
+5V
+12V
+9V
+5

UG01 IGR BOARD PB2878



IMPORTANT SAFETY NOTICE

Component marked with the International Hazard Symbol must, if changed, be replaced by an approved type and must be mounted as the original. This will ensure that the safety standards adhered to during manufacture will be maintained following any servicing procedure

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. (–) or ground lead of instruments should be connected to the ground marked (⊥) in the shematic on checking Non-isolated circuit surrounded by mark but should be connected to the points marked (⏚) on checking isolated circuit.
3. The voltage readings may vary as much as ±20%.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast, Brightness and Colour controls are set near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.

NOTES:

1. This circuit diagram is subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

GROUNDING SYMBOL

1. ⊥ Non isolated ground, ⏚ Isolated ground

RESISTORS

Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

Suffixes to values:

TOLERANCE	MARK
±1%	(F)
±2%	(G)

Suffixes to VR values:

LAW	MARK
Linear	(B)
'C' Curve Characteristic	(C)

Rating Markings:

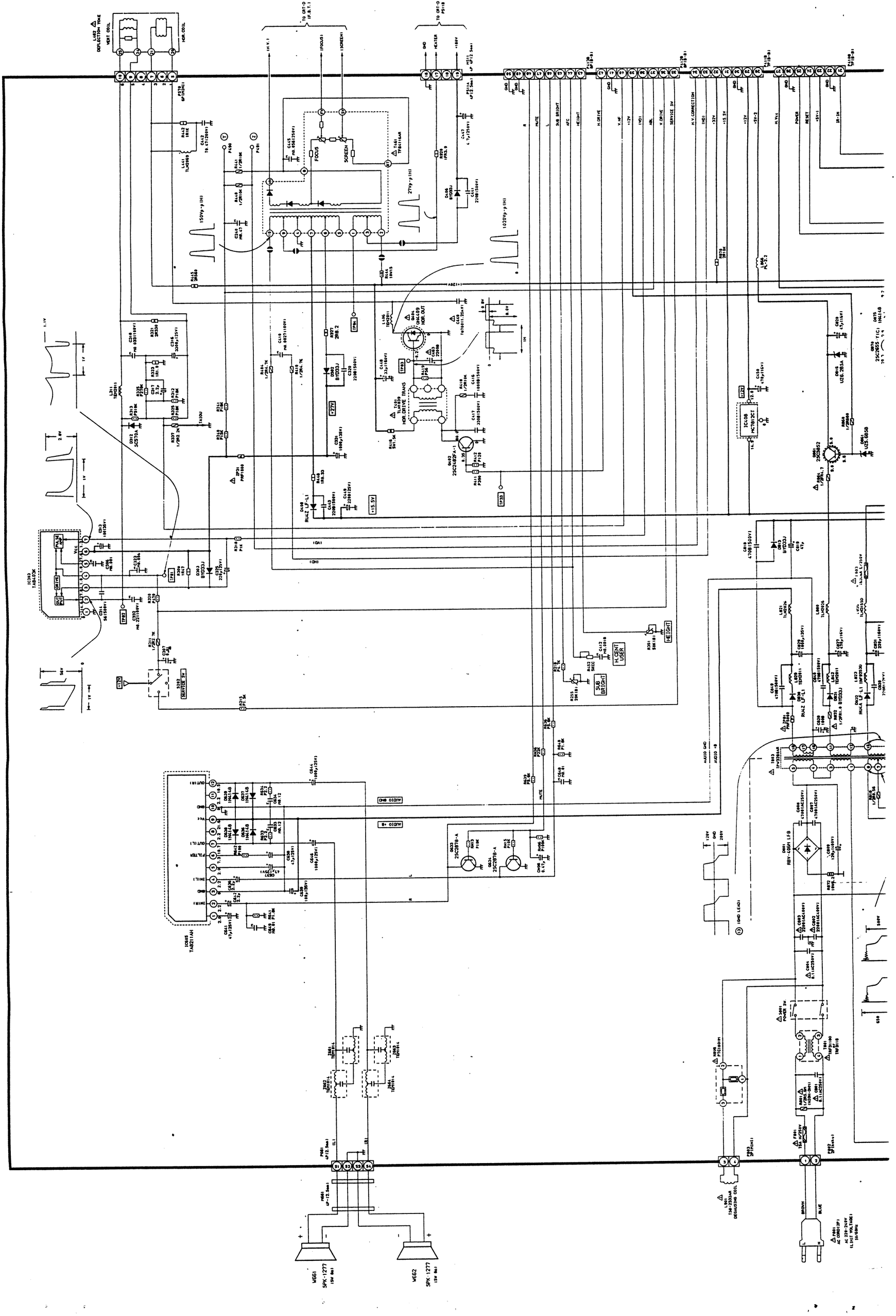
WATTAGE	MARK
1 6W	
1/4W	
1/2W	
1W	1
2W	2

WATTAGE	MARK
3W	3
5W	5
10W	10
15W	15
20W	20
25W	25

CAPACITORS

Rating Markings:

Type	Mark
Ceramic Disc 50V Only	
Electrolytic	
Electrolytic Non-Polar	
Variable Capacitor	
Other	

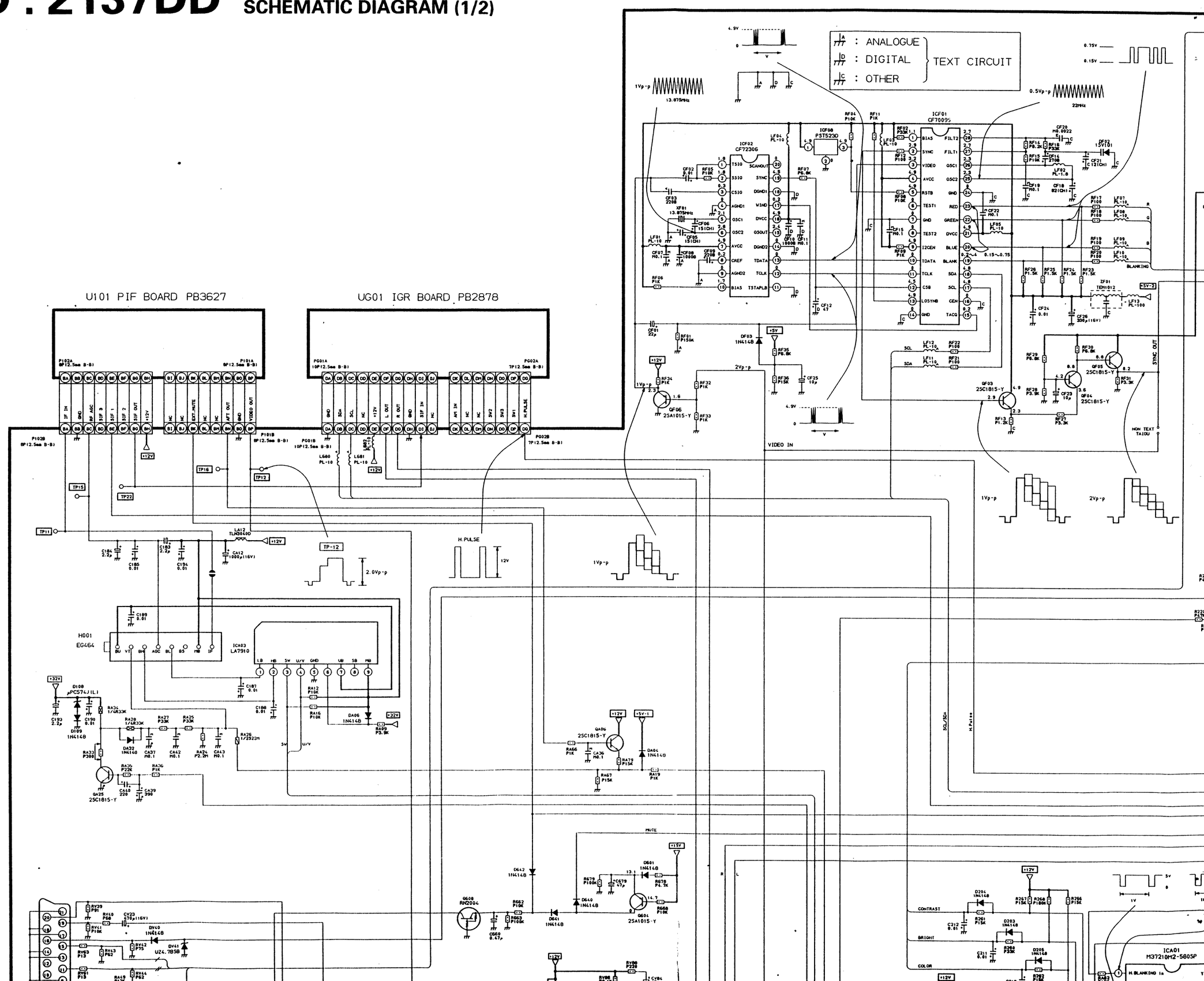

DEFLECTION YOKE
VERT COIL
HOR COIL
TO CRT-D IF.B.T.1
TO CRT-D P518
FOCUS
SCREEN
HEATER
+180V
150Vp-p (H)
270Vp-p (H)
1020Vp-p (H)
HOR DRIVE TRANS
HOR OUT
H.CENT USER
S-B BRIGHT
HEIGHT
SERVICE SW
MUTE
AUDIO GND
AUDIO +B
DEGAUSSING COIL
POWER SW
AC CORD(2P)
BROWN
BLUE
SPK-1277
15W 8Ω

:EARTH OF SIGNAL CIRCUIT

:EARTH OF POWER CIRCUIT

LIVE AREA

2132DD : 2137DD SCHEMATIC DIAGRAM (1/2)



U902A SIGNAL BOARD PB3628-1

*TEXT CIRCUIT

IC501 TA8808BN

IC801 M37210M2-580SP

IC301 AN5862K

P413A 8P(B-B)

P412A 8P(B-B)

P411A 7P(B-B)

P410A 7P(B-B)

DO NOT MEASURE VOLTAGE AND WAVEFORM AT PIN 37.

ICA01
M37210M2-580SP

H.BLANKING in
V.BLANKING in
CONTRAST (OD)
BRIGHT (OD)
COLOR (OD)
VOLUME (OD)
BASS
TREBLE
BALANCE
Ref defect
AFT in
BAND2
BAND1
VT
MODE 1
RMT in
TV SYNC in
MODE 2
21PIN1
21PIN2
VIDEO1
VIDEO2
GND
4MHz
4MHz
GND

Y-MUTE
OSD
IDENT(IM-BUS)
CLOCK(IM-BUS)
CS(MEMORY)
CLOCK(MEMORY)
DATA(MEMORY)
DATA(IM-BUS)
SCL
SDA
TEXT OUT
SIF SW
TAKE OFF
Mute
TV OUT Mute
Key1 in
Key2 in
MODE 0
DEGAUSS
POWER
RESET
OSC1(DISPLAY)
OSC1(DISPLAY)
+5V

ICA02
MSM80011AP

CS
SR
DI
DO
5V
T/B
RST
GND

MUTE
R
L
TEXT
TV
NORMAL
STANDBY
ON
IR-IN
SDA
SCL
EARTH OF μ-CON

MENU
VOL DN
VOL UP
POS DN
POS UP
SA02 PUSH SW
SA01 PUSH SW

U902B CRT DRIVE BOARD PB3628-2

RED OUT
GREEN OUT
BLUE OUT
RED CUT OFF
GREEN CUT OFF
BLUE CUT OFF
RED DRIVE
GREEN DRIVE
BLUE DRIVE

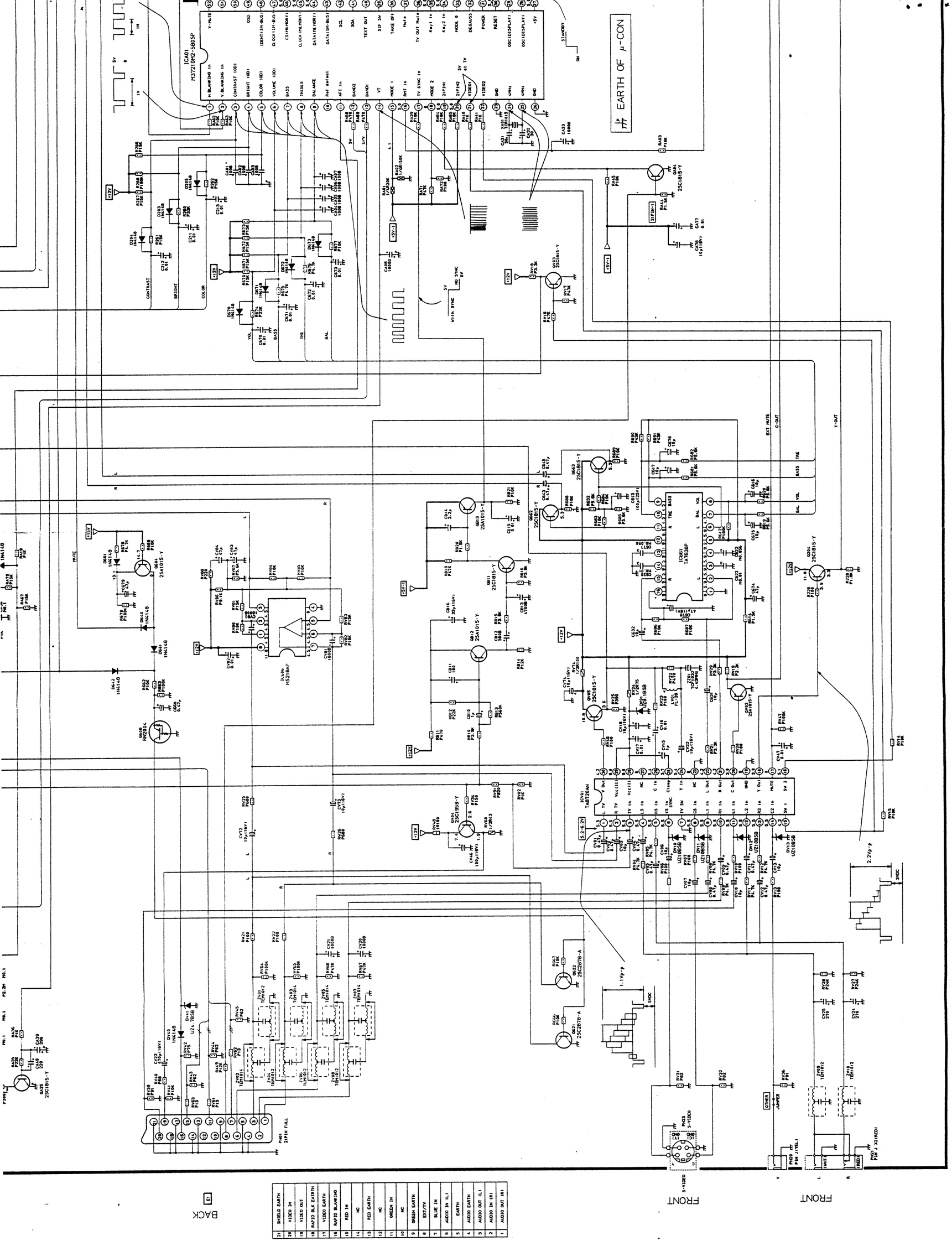
Q505 2SC3619
Q506 2SC1815-Y
Q507 2SC3619
Q508 2SC1815-Y
Q509 2SC3619
Q510 2SC1815-Y
Q514 2SA562TM-O
Q516 2SC2120-Y

V901 C.CRT A51KSV40X01(M) (T58 MARK-2.ITC)
V901A

80Vp-p
72Vp-p
68Vp-p

(H.V.)
(FOCUS)
(SCREEN)
(GND)
(HEATER)
(+180V)
TO F.B.T. (T461)
TO POWER.DEF.AUD BOARD

P510A 5P(2.5mm)
P510B 5P(2.5mm)
P511 4P-5P(2.5mm)
P511A 4P(2.5mm)
P511B 4P(2.5mm)



21	SHIELD EARTH
20	VIDEO IN
19	VIDEO OUT
18	RAPID BLK EARTH
17	VIDEO EARTH
16	RAPID BLANKING
15	RED IN
14	NC
13	RED EARTH
12	NC
11	GREEN IN
10	NC
9	GREEN EARTH
8	EXT/TV
7	BLUE IN
6	AUDIO IN (L)
5	EARTH
4	AUDIO EARTH
3	AUDIO OUT (L)
2	AUDIO IN (R)
1	AUDIO OUT (R)